Gateway

SX2830 Service Guide

SG V1.01
PRINTED IN TAIWAN

Revision History

Please refer to the table below for the updates made on this service guide.

Date	Version	Chapter	Updates
04-25-2012	First Draft		
04-26-2012	V1.00		
08-20-2012	V1.01	1,2,6	Phase in Win8 operation system, and update related information on page1, 15, 16, 98.

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Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives additional information related to the current topic.
WARNING	Alerts you to any physical risk or system damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

Service Guide Coverage

This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

FRU Information

Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Tour

Features

Below is a brief summary of the computer's many feature:

NOTE: The features listed in this section is for your reference only. The exact configuration of the system depends on the model purchased.

Operating System

- Microsoft Windows 8 ML x64
- Microsoft Windows 8 SL x64
- Microsoft Windows 7 Home Premium x64
- Microsoft Windows 7 Home Basic x64
- Microsoft Windows 7 Home Premium x86
- Microsoft Windows 7 Home Basic x86
- Microsoft Windows 7 Starter x86
- Linpus Xwindows
- FreeDOS

Processor

- Socket Type: AMD FM2
- Socket Quantity: 1
- Processor Type:
  - AMD Virgo 65W and 100W CPU which supports AMD Turbo Core 3.0 Technology.

Chipset

- FCH: AMD A75.

PCB

- DTX, as small as better.
- 4 layer.
- Acer Inc. logo printed on the PCB.

Memory subsystem

- Socket Type: DDR III connector .
- Socket Quantity: 4
- 2 channels, 2 DIMMs per channel, Different colors for DIMM 0 and DIMM 1.
- Support DDR3 1.5V 1066/1333(1GB / 2GB / 4GB).
- Max memory of 16GB supported(Using 4GB tech).
- Dual channel should be enabled always when plug-in 2 same memory size 1.5V DDRIII. memory module.
- Follow Follow Acer Mother Board EE Design Request-v5.5-2011-1103 or later version.

Graphics

- HD Graphics Support:
  - Support Digital display HDMI, DVI and VGA.
  - AMD Blu-ray 3D technology support .
  - Complicant with HDMI CTS v1.4a.
  - Dual View function support.
  - Need to measure VGA follow Acer VGA SOP.
  - Support for Cool'n'Quiet™ via FID/VID change.
  - Support for AMD PowerNow!™.
- Monitor compatible is requested to the monitor AVL and DQM recommended list.

Graphics card

- No mechanical retriction to support single slot graphics cards in the PCIe X16 slot.
- PCIe x 16 should be placed in second slot which is closed to MB boarder.
- Latch design should be considered to release the latch from CPU side.

Hard disk drive

- Support up to one SATA ports. 3.5
- Capacity and models are listed on AVLC

Optical disk drive

- Support up to one SATA 5.25” standard ODD.
- Capacity and models are listed on AVLC.

Audio

- Chip : HD audio codec ALC662 HD codec 5.1
- Rear 3 jack follow HD audio definition.
- Front IO: 1*Microphone-in, 1*headphone jack.

Serial ATA controller

- Connector Type: SATAIII connector.
- Connector Quantity: 3(3 * 6Gb/s)
- Storage Type support:
  - 3.5” SATAII/SATAIII HDD.
  - DVD-ROM/DVD-RW/DVD+RW/DVD Dual/DVD SuperMultiPlus/ Blu-Ray ODD.
  - AHCI/IDE mode option
  - Default AHCI mode in Microsoft windows OS. Native IDE mode in non-windows OS.

LAN

- Realtek RTL8111FA with surge protection and IOAC support.
- Meet China Rural PC requirements.
- Support WOL ,PXE.
- Need support Wake up on LAN function including from S3,S4,S5, power button off (non-ACPI OS).
- RJ-45 Back panel port with Link/Activity LEDs.

Extension slot

- 1 * PCIE x16 (PCIE V2.0).
- 1 * PCIE x1 (PCIE V2.0).

USB Ports

- Controller: AMD A75 chipset.
- Rear I/O:
  - 4 * USB2.0 ports.
  - 2 * USB3.0 ports.
- Onboard Header:
  - Three 2X5 USB2.0 headers.
  - One 2X10 USB3.0 headers.
- Connector Pin: standard Intel FPIO pin definition.
- Cardreader: 1 on borad header should be delegate to cardreader as internal device and use different color.
- Data transfer rate support:
  - USB 3.0/2.0/1.1
  - All USB ports must be boot-capable includes USB-ODD, USB-HDD, USB-FDD, and etc…
  - All USB ports must provide the over current protection.
  - Enable the USB EHCI Debug Ports.

Buzzer

- 1 on board buzzer.

Rear I/O connectors

- 1 * PS2 KB+MS.
- 1 * HDMI port.
- 1 * VGA connector.
- 2 * USB 2.0 ports
- 1 * RJ45 + 2 * USB 2.0 ports.
- 2 * USB 3.0 ports.
- 1 * 3 ports Audio jack.

On-board connectors

- 1* FM2 CPU socket.
- 4* DDR3 DIMM Socket.
- 1* PCI Express x16 slot.
- 1* PCI Express x 1 slot.
- 3 * SATAIII ports.
- Three* 2x5 USB2.0 on board header
- One* 2x10 USB3.0 on board header
- One * H5X2 Front Audio Pannel header
- One* 4 pin PWM CPU Fan connector
- One* 4 pin System with SAMRT FAN controller (co-lay with 3 pin)
- One* H1X4 SPDIF out header closed to PCIEx16 slot

- One* 24 pin ATX interface PS3/PS2 SPS connector
- One* H2X2 Power Supply Connector
- One* H7x2 pin front panel IO header
- One* H3X1 Jumper for clear CMOS
- One* 3 pin IR receiver header to super I/O
- One* on board buzzer
- Two* reserved 2pin GPIO connector

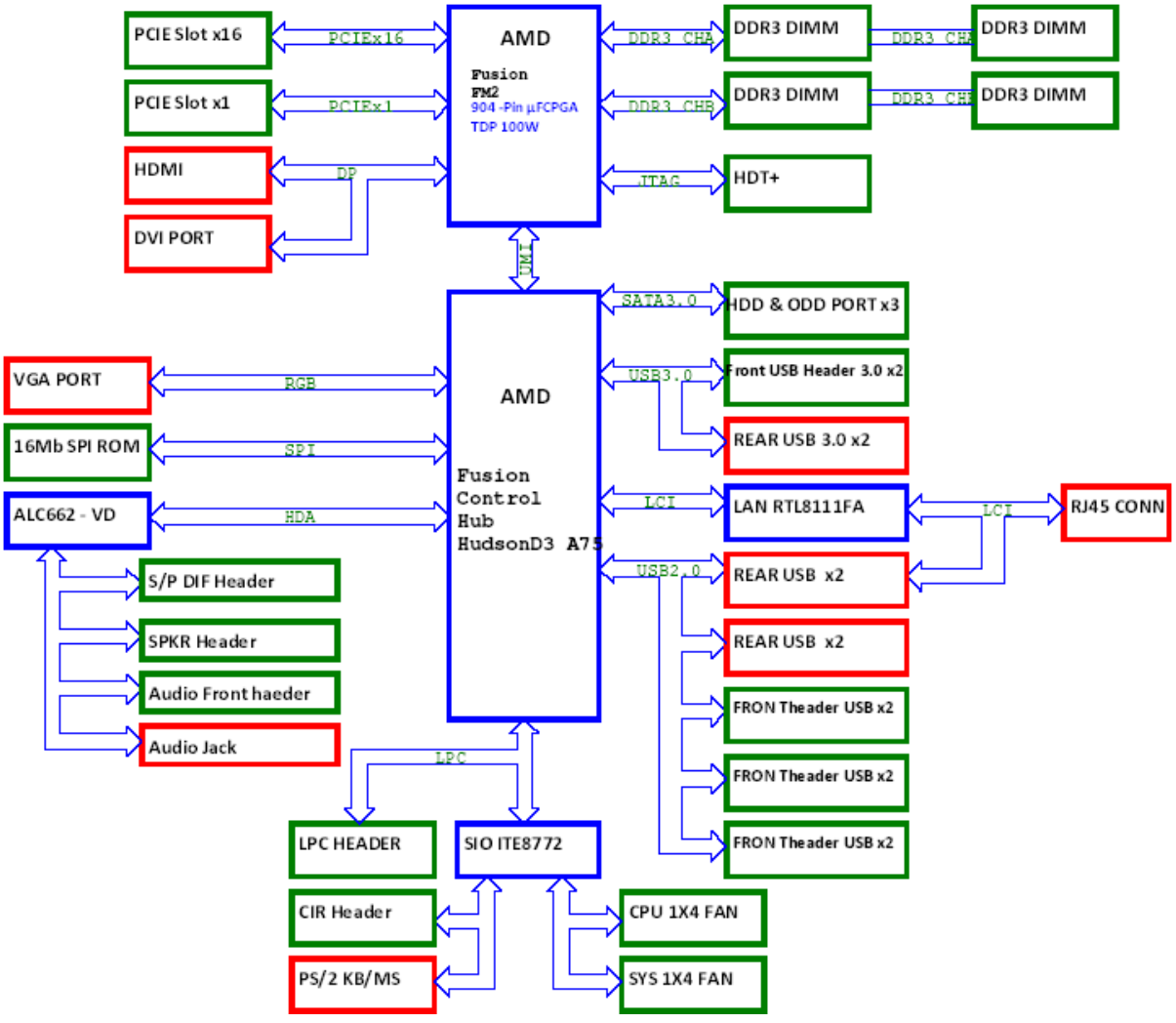
System BIOS

- Type:
  - Use SPI Flash.
  - System BIOS: 8MBytes.
  - BIOS ROM Size: 8MBytes.
- Kernel:
  - AMI Kernel with Acer skin/copyright.

Power supply

- Non PFC 220W / PFC 220W / Full range PFC 220W.
- Support models are listed on AVLC.

Block Diagram



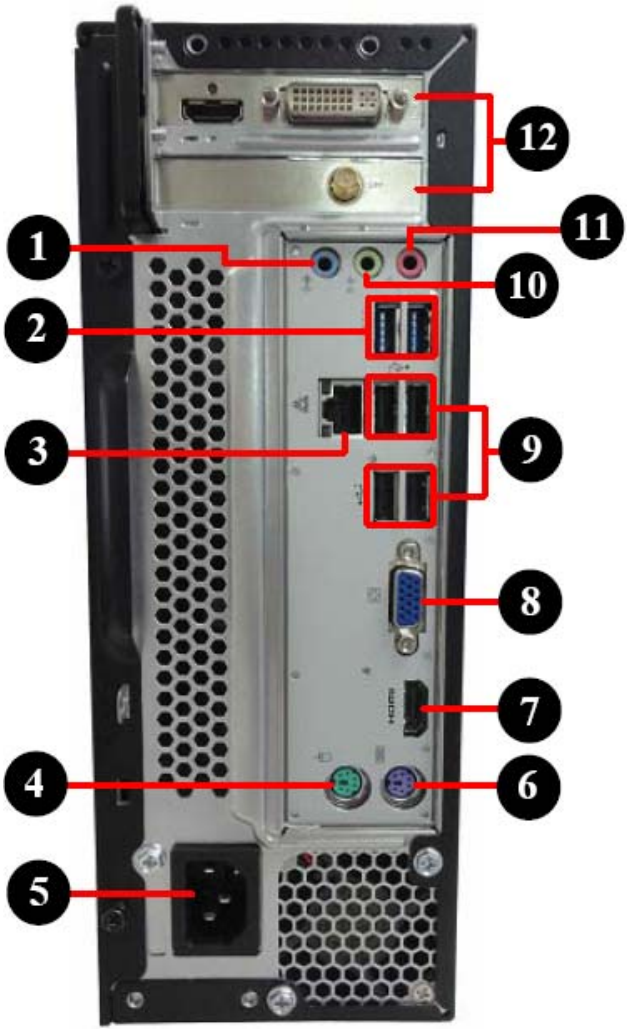
System Components

This section is a virtual tour of the system's interior and exterior components.

Front Panel

No.	Component
1	Gateway logo
2	USB 2.0 ports
3	Card reader slot(SD/SDHC/MMC/Plus)
4	Headphone/Speaker-out/line-out jack
5	Microphone-in jack
6	Optical drive
7	Optical drive eject button (Press to open drive bay door and access the optical drive.)
8	Power button/power indicator

Rear Panel



No.	Component
1	Line-in jack
2	USB 3.0 ports
3	RJ45 LAN connector
4	PS2 mouse port
5	Power connector
6	PS2 keyboard port
7	HDMI port
8	D-sub port
9	USB 2.0 ports
10	Line-out jack
11	Microphone jack
12	Expansion slot

Hardware Specifications and Configurations

Processor

Item	Specification
Processor Type	AMD Virgo 65W and 100W CPU
Socket Type	AMD FM2
Minimum operating speed	0 MHz (If Stop CPU Clock in Sleep State in BIOS Setup is set to Enabled.)

BIOS

Item	Specification
BIOS code programer	AMI Kernel with Acer skin
BIOS version	P01-A0 or P11-A0
BIOS ROM type	SPI Flash
BIOS ROM size	8MByte
Support protocol	SMBIOS(DMI)2.7
Device Boot Support	1st priority: SATA HDD 2nd priority: CD-ROM 3rd priority: USB device 4th priority: LAN
Support to LS-120 drive	No
Support to BIOS boot block feature	YES

BIOS Hotkey List

Hotkey	Function	Description
Del	Enter BIOS Setup Utility	Press while the system is booting to enter BIOS Setup Utility.

Main Board Major Chips

Item	Specification
Chipset	AMD A75
USB controller	AMD A75
Audio controller	ALC662-VD
LAN controller	RTL8111FA
SATA controller	AMD A75

Memory Combinations

Slot	Memory	Total Memory
Slot 1	1GB,2GB,4GB	1G ~4GB
Slot 2	1GB,2GB,4GB	1G ~4GB
Slot 3	1GB,2GB,4GB	1G ~4GB
Slot 4	1GB,2GB,4GB	1G ~4GB
Maximum System Memory Supported		1G~16GB

System Memory

Item	Specification
Memory slot number	4 slot
Support Memory size per socket	1GB/2GB/4GB
Support memory type	DDRIII
Support memory interface	DDRIII 1333/1600MHz
Support memory voltage	1.5V
Support memory module package	240-pin DDRIII
Support to parity check feature	Yes
Support to error correction code (ECC) feature	No
Memory module combinations	You can install memory modules in any combination as long as they match the above specifications.

Audio Interface

Item	Specification
Audio controller	AMD Hudson D2/D3/D4
Audio controller type	ALC662-VD
Audio channel	codec 5.1
Audio function control	Enable/disable by BIOS Setup
Mono or stereo	Stereo
Compatibility	The ALC662-VD supports host audio from Intel chipsets, and also from any other HDA compatible audio controller. With EAX/Direct Sound 3D/I3DL2 compatibility, software utilities like Karaoke mode, environment emulation, multi-band software equalizer, 3D positional audio, and optional Dolby R Digital Live and DTS R CONNECT ™ programs, the ALC662-VD provides an excellent home entertainment package and game experience for PC users.
Music synthesizer	Yes, internal FM synthesizer.
Sampling rate	192 kHz (max.)
MPU-401 UART support	No
Microphone&Headphone jack	Supported

SATA Interface

Item	Specification
SATA controller	AMD A75
Number of SATA channel	SATAIII X 3(3 * SATA 6Gb/s)
Support mode	AHCI/IDE mode option

USB Port

Item	Specification
Universal HCI	USB 3.0/2.0/1.1
USB Class	Support legacy keyboard for legacy mode
USB Connectors Quantity	**USB2.0:** • Rear IO : 4 ports • Internal Header: 6 ports(three 2X5 USB2.0 headers.) **USB3.0:** • Rear IO: * 2 ports. • Internal Header: 2 ports(one 2X10 USB3.0 headers).

Environmental Requirements

Item	Specification
Temperature	
Operating	+5°C ~ +35°C
Non-operating	-20 ~ +60°C (Storage package)
Humidity	
Operating	15% to 80% RH
Non-operating	10% to 90% RH
Vibration	
Operating (unpacked)	5 ~ 500 Hz: 2.20g RMS random, 10 minutes per axis in all 3 axes. 5 ~500 Hz: 1.09g RMS random, 1 hour per axis in all 3 axes.

Power Management

Devices	S1	S3	S4	S5
Power Button	V	V	V	V
USB Keyboard/Mouse	V	V	N/A	N/A
PME	Disabled	Disabled	Disabled	Disabled
RCT	Disabled	Disabled	Disabled	Disabled
WOR	Disabled	Disabled	Disabled	Disabled

- Devices wake up from S3 should be less than.
- Devices wake up from S5 should be less than 10 seconds.

Power Management Function(ACPI support function)

Device Standby Mode

- Independent power management timer for hard disk drive devices(0-15 minutes,time step=1minute).
- Hard Disk drive goes into Standby mode(for ATA standard interface).
- Disable V-sync to control the VESA DPMS monitor.
- Resume method:device activated (keyboard for DOS, keyboard &mouse for Windows.
- Resume recovery time 3-5sec

Global Standby Mode

- Global power management timer(2-120minutes,time step=10minute).
- Hard disk drive goes into Standby mode(for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Resume method: Resume to original state by pushing external switch Button,modem ring in,keyboard an mouse for APM mode.
- Resume recovery time :7-10sec

Suspend Mode

- Independent power management timer(2-120minutes,time step=10minute)or pushing extern switch button.
- CPU goes into SMM
- CPU asserts STPCLK# and goes into the Stop Grant State.
- LED on panel turns amber colour.
- Hard disk drive goes into SLEEP mode (for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Ultra I/O and VGA chip go into power saving mode.
- Resume method: Resume to original state by pushing external switch Button,modem ring in,keyboard an mouse for APM mode
- Return to original state by pushing external switch button,modem ring in and USB keyboard for ACPI mode.

ACPI

- ACPI specification 1.0b
- S0,S1,S2 and S5 sleep state support.
- On board device power management support.
- On board device configuration support.

System Utilities

CMOS Setup Utility

CMOS setup is a hardware configuration program built into the system ROM, called the complementary metal-oxide semiconductor (CMOS) Setup Utility. Since most systems are already properly configured and optimized, there is no need to run this utility. You will need to run this utility under the following conditions.

- When changing the system configuration settings
- When redefining the communication ports to prevent any conflicts
- When modifying the power management configuration
- When changing the password or making other changes to the security setup
- When a configuration error is detected by the system and you are prompted ("Run Setup" message) to make changes to the CMOS setup

NOTE: If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS. Ask a qualified technician for assistance.

CMOS setup loads the configuration values in a battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM which allows configuration data to be retained when power is turned off.

Before you run the *CMOS* Setup Utility, make sure that you have saved all open files. The system reboots immediately after you close the Setup.

NOTE: *CMOS* Setup Utility will be simply referred to as “BIOS”, "Setup", or "Setup utility" in this guide.

The screenshots used in this guide display default system values. These values may not be the same those found in your system.

Entering CMOS setup

1. Turn on the server and the monitor.

   If the server is already turned on, close all open applications, then restart the server.

2. During POST, press **Delete**.

   If you fail to press **Delete** before POST is completed, you will need to restart the server.

   The Setup Main menu will be displayed showing the Setup's menu bar. Use the left and right arrow keys to move between selections on the menu bar.

Navigating Through the Setup Utility

Use the following keys to move around the Setup utility.

- **Left** and **Right** arrow keys – Move between selections on the menu bar.
- **Up** and **Down** arrow keys – Move the cursor to the field you want.
- **PgUp** and **PgDn keys** – Move the cursor to the previous and next page of a multiple page menu.
- **Home** – Move the cursor to the first page of a multiple page menu.
- **End** – Move the cursor to the last page of a multiple page menu.
- **+** and **-** keys – Select a value for the currently selected field (only if it is user-configurable). Press these keys repeatedly to display each possible entry, or the **Enter** key to choose from a pop-up menu.

NOTE: Grayed-out fields are not user-configurable.

- **Enter** key – Display a submenu screen.

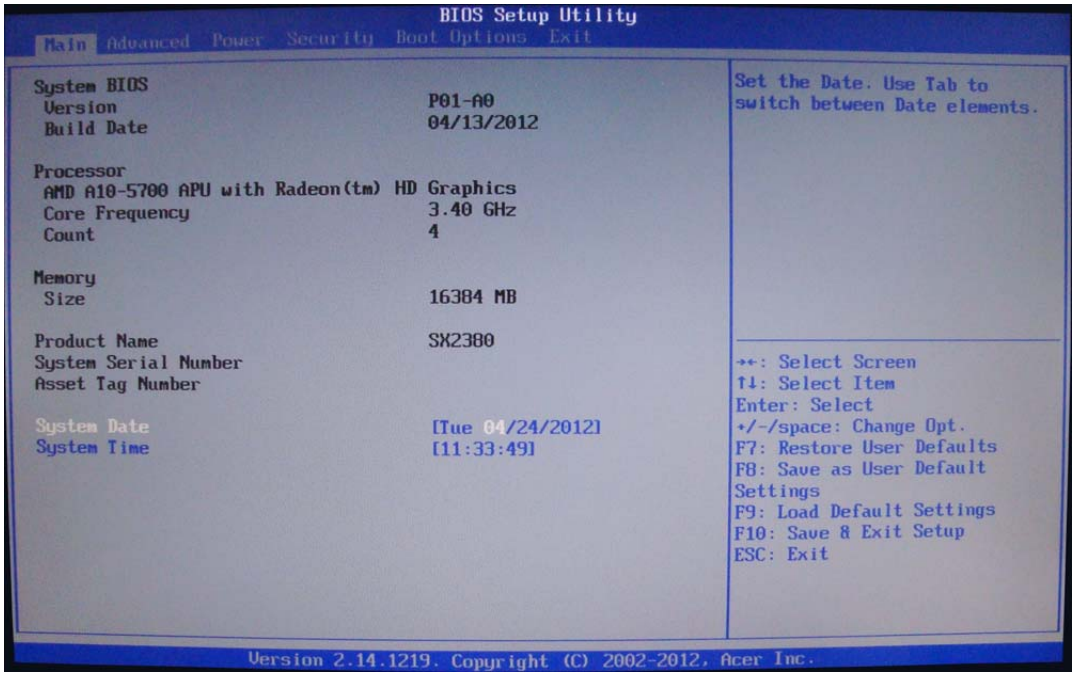
NOTE: Availability of submenu screen is indicated by a (>).

- **Esc** – If you press this key:
  - On one of the primary menu screens, the Exit menu displays.
  - On a submenu screen, the previous screen displays.
  - When you are making selections from a pop-up menu, closes the pop-up without making a selection.
- **F1** – Display the General Help panel.
- **F6** – Press to load optimized default system values.
- **F7** – Press to load fail-safe default system values.
- **F10** – Save changes made the Setup and close the utility.

Setup Utility Menus

Main for P01-A0(DB.GDE11.001)

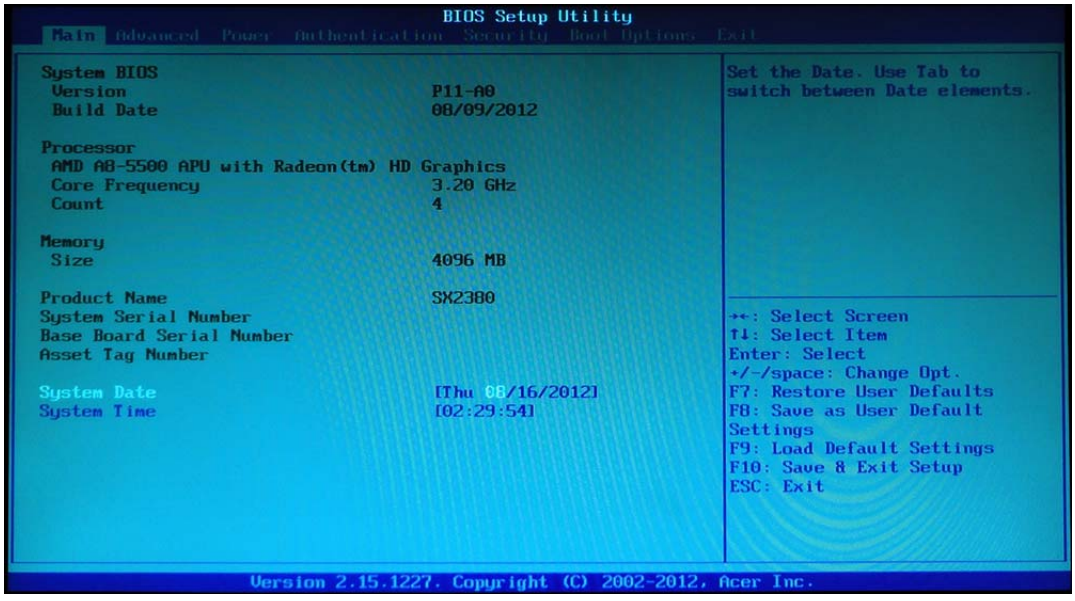
The Setup Main menu includes the following main setup categories.



Parameter	Description
System BIOS	
Version	Version number of the BIOS setup utility.
Build Date	Date when the BIOS setup utility was built
Processor	Type of CPU installed on the system.
Core Frequency	Core speed of the CPU installed on the system.
Count	Physical CPU count
Memory	
Size	Total size of system memory installed on the system.
Product Name	Product name of the system.
System Serial Number	Serial number of the system.
Asset Tag Number	Asset tag number of this system.
System Date	Set the date following the weekday-month-day-year format.
System Time (hh:mm:ss)	Set the system time following the hour-minute-second format.

Main for P11-A0(DB.GDS11.001)

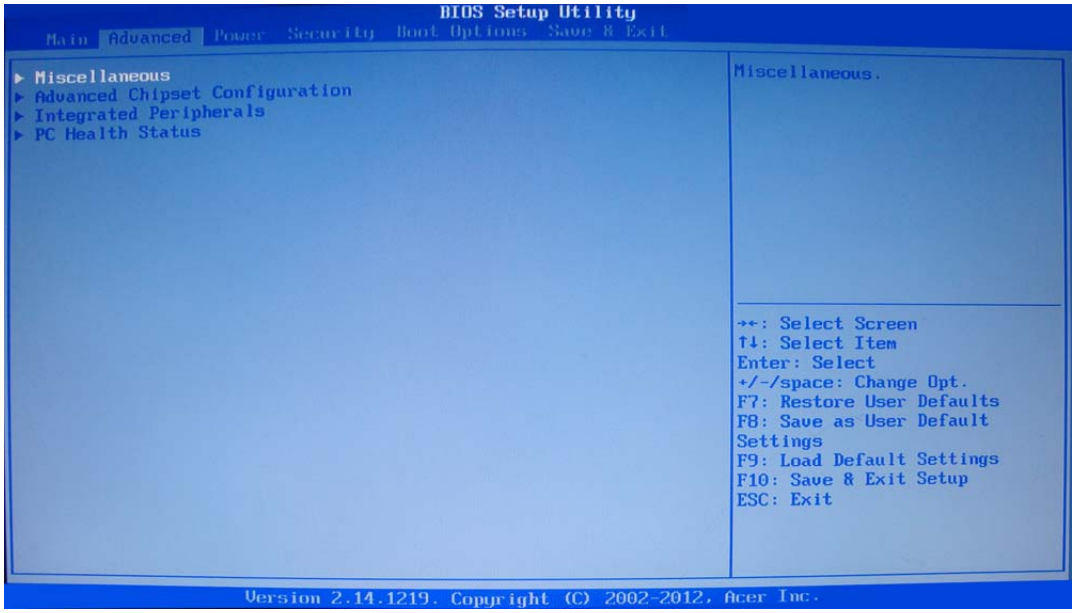
The Setup Main menu includes the following main setup categories.



Parameter	Description
System BIOS	
Version	Version number of the BIOS setup utility.
Build Date	Date when the BIOS setup utility was built
Processor	Type of CPU installed on the system.
Core Frequency	Core speed of the CPU installed on the system.
Count	Physical CPU count
Memory	
Size	Total size of system memory installed on the system.
Product Name	Product name of the system.
System Serial Number	Serial number of the system.
Base Board Serial Number	Serial number of the motherboard.
Asset Tag Number	Asset tag number of this system.
System Date	Set the date following the weekday-month-day-year format.
System Time (hh:mm:ss)	Set the system time following the hour-minute-second format.

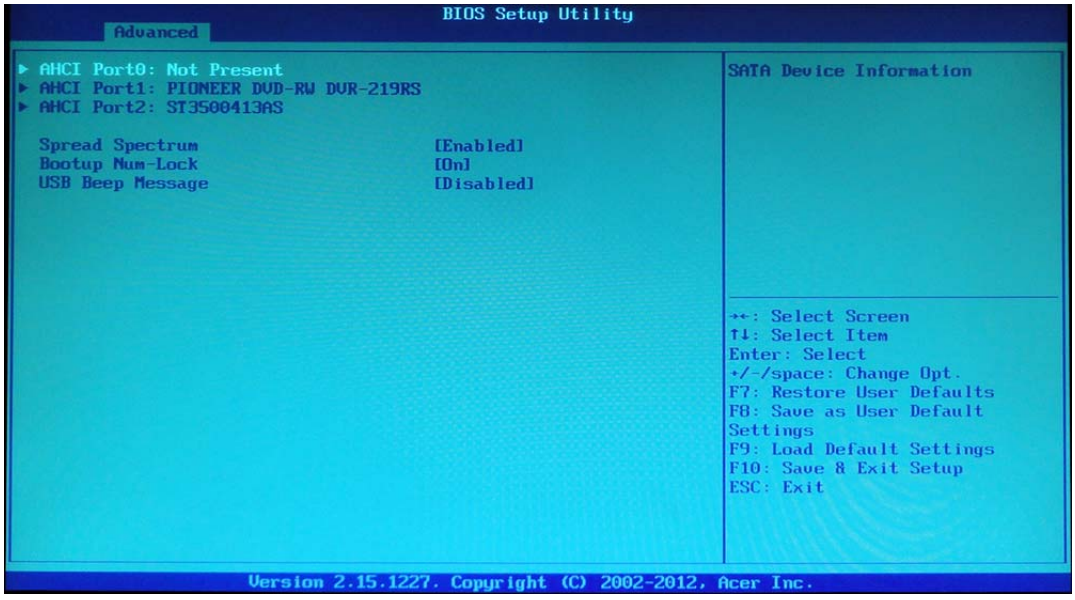
In the descriptive table following each of the menu screenshots, settings in **boldface** are the default and suggested settings.

Advanced



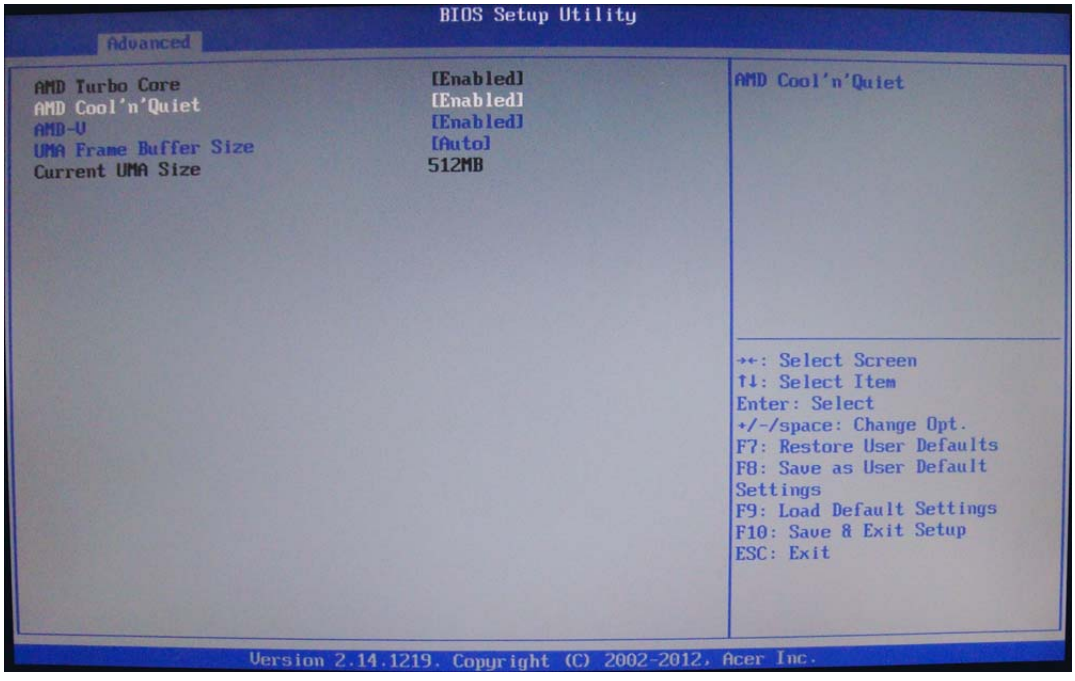
Parameter	Description
Miscellaneous	Press Enter to access the Miscellaneous submenu
Advanced Chipset Configuration	Press Enter to access the Advanced Chipset Configuration submenu
Integrated Peripherals	Press Enter to access the Integrated Peripherals submenu
PC Health Status	Press Enter to access the PC Health Status submenu

Miscellaneous



Parameter	Description	Option
AHCI Port0/1/2	Displays the status of auto detection of the AHCI device.	
Spread Spectrum	Enables or disables the reduction of the mainboard's EMI. Note: Remember to disable the Spread Spectrum feature if you are overclocking. A slight jitter can introduce a temporary boost in clock speed causing the overclocked processor to lock up.	**Enabled** Disabled
Bootup Num-lock	Selects power on state for Num Lock.	**On** Off
USB Beep Message	Enables or disables BIOS to display error beeps or messages during USB device enumeration.	Enabled **Disabled**

Advanced Chipset Configuration

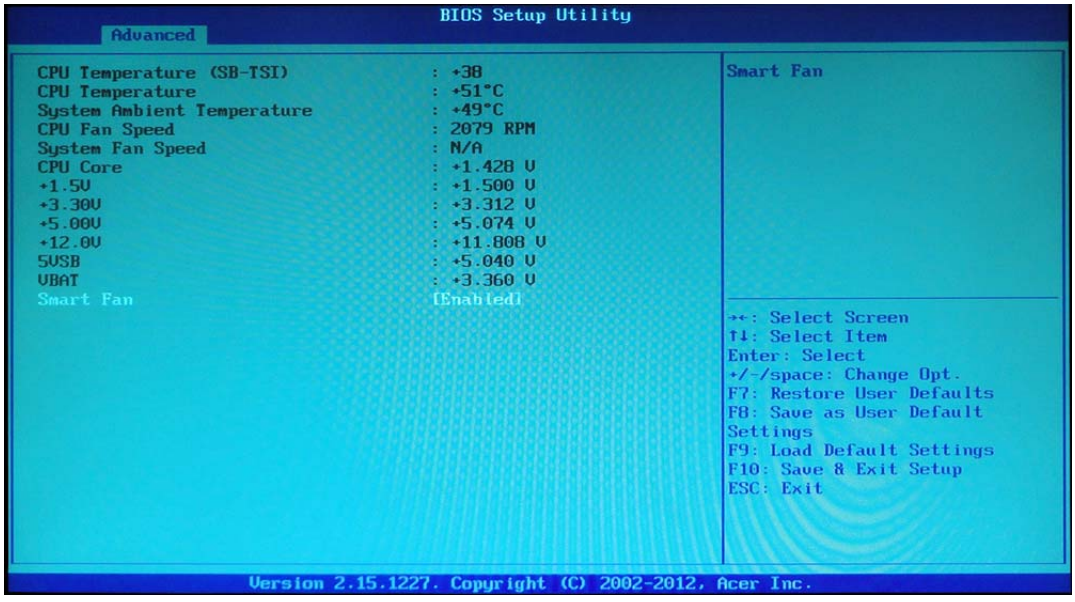


AMD Turbo Core	Enables or disables AMD Turbo Core Technology.	**Enabled** Disabled
AMD Cooler'n'Quiet	When enabled, this feature allows the OS to reduce power consumption. When disabled, the system operates at maximum CPU speed.	**Enabled** Disabled
AMD-V	Enables or disables the Virtualization Technology (VT) availability. If enabled, a virtual machine manager (VMM) can utilize the additional hardware virtualization capabilities provided by this technology. **Note:** A full reset is required to change the setting.	**Enabled** Disabled
UMA Free Buffer Size	Select the amount of system memory used by the Intel graphics device.	**Auto** 64MB 128MB 256MB 512MB
Current UMA Size	Displays the current unified memory architecture (UMA) size.	

Integrated Peripherals

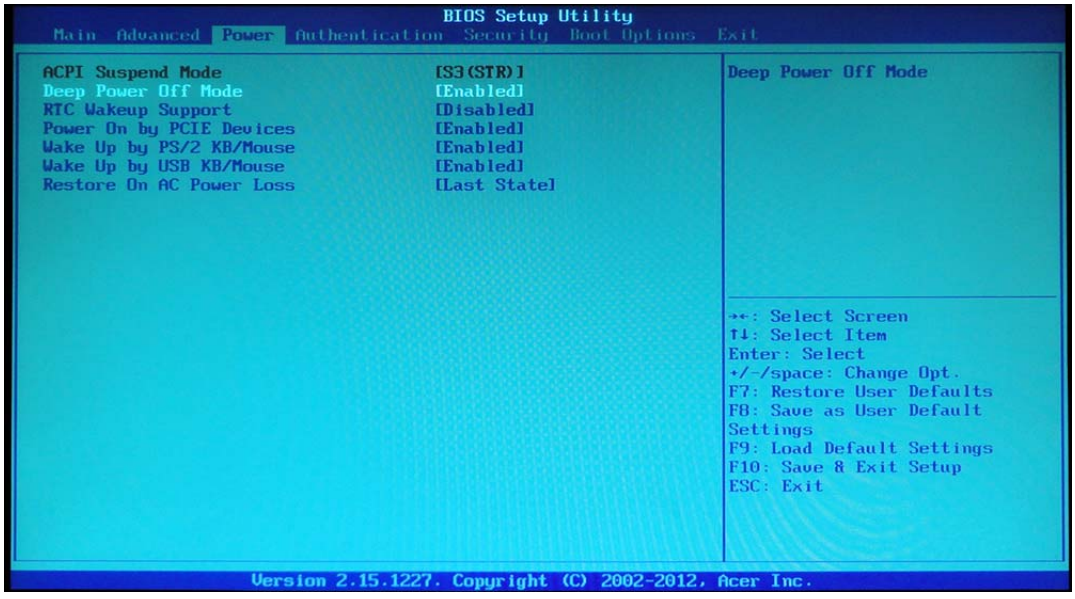
Parameter	Description	Option
Onboard SATA Controller	Enables or disables the onboard SATA controller.	**Enabled** Disabled
Onboard SATA Mode	Select an operating mode for the onboard SATA.	Native IDE **AHCI**
Onboard USB Controller	Enables or disables the onboard USB controller.	**Enabled** Disabled
Legacy USB Support	Enables or disables support for legacy USB devices.	**Enabled** Disabled
USB Storage Emulation	If Auto, USB device equal or less than 2GB will be emulated as Floppy and remaining as harddrive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD (Ex.ZIP drive).	**Auto** Floppy Hard Disk
Onboard Graphics Controller	Enables or disables the onboard Graphics Controller.	**Enabled** Disabled
Onboard Audio Controller	Enables or disables the onboard audio controller.	**Enabled** Disabled
Onboard LAN Controller	Enables or disables the onboard LAN controller.	**Enabled** Disabled
Onboard LAN Option ROM	Enables or disables the load of embedded option ROM for onboard network controller.	Enabled **Disabled**

PC Health Status



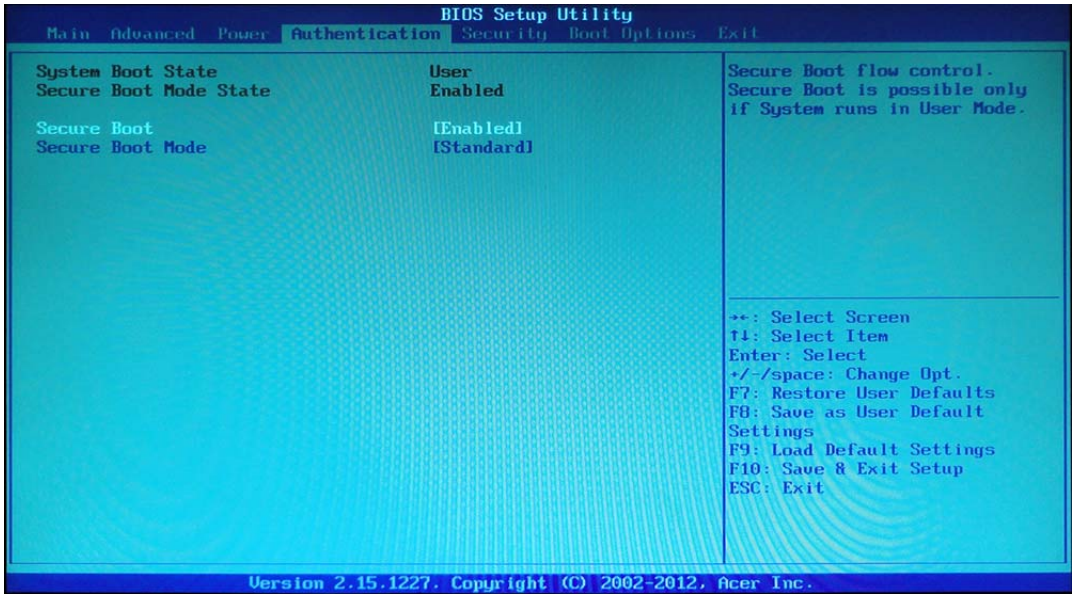
Parameter	Description	Option
Smart Fan	Enables or disables the smart system fan control function.	**Enabled** Disabled

Power


BIOS Setup Utility
Main Advanced Power Authentication Security Boot Options Exit
ACPI Suspend Mode [S3(STR)]
Deep Power Off Mode [Enabled]
RTC Wakeup Support [Disabled]
Power On by PCIE Devices [Enabled]
Wake Up by PS/2 KB/Mouse [Enabled]
Wake Up by USB KB/Mouse [Enabled]
Restore On AC Power Loss [Last State]
Deep Power Off Mode
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-/space: Change Opt.
F7: Restore User Defaults
F8: Save as User Default Settings
F9: Load Default Settings
F10: Save & Exit Setup
ESC: Exit
Version 2.15.1227. Copyright (C) 2002-2012, Acer Inc.

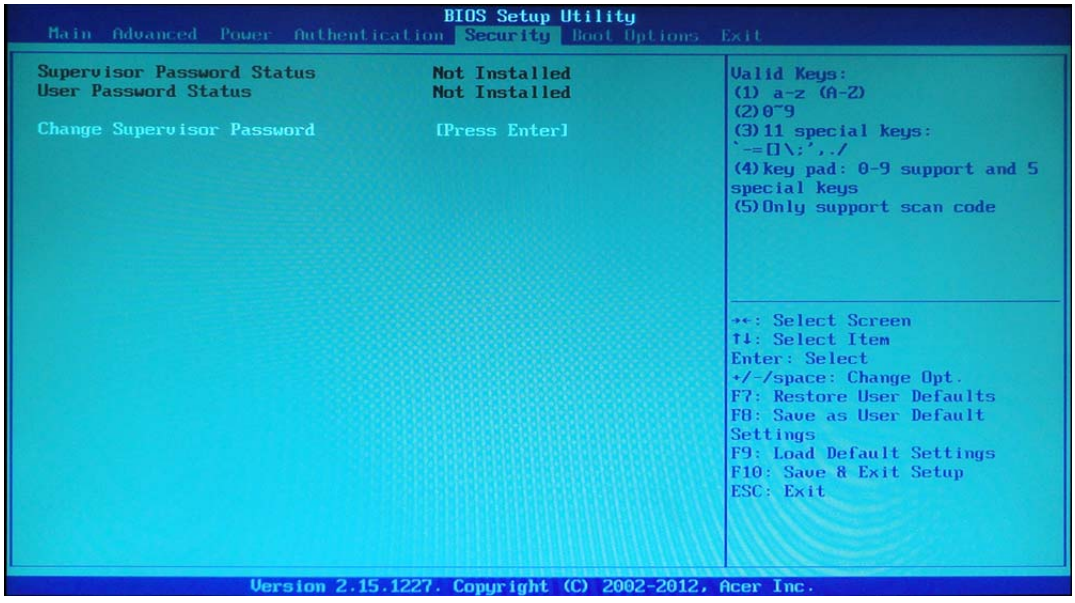
Parameter	Description	Option
ACPI Suspend Mode	Select an ACPI state.	**S3 (STR)** S1 (POS)
Deep Power Off Mode	Select the Deep power off Mode	**Enabled** Disabled
RTC Wakeup Support	Enables or Disables to wake up the system by RTC Alarm Function	Enabled **Disabled**
Power On by PCIE Devices	This system can be turned off with a software commend. If you enable this item, the system can automatically resume if there is an incoming call on the PCIE LAN card.You must use an ATX power supply in order to use this feature.Use this item to dowake-up action if inserting the PCIE card.	Enabled **Disabled**
Wake Up by PS/2 KB/ Mouse	Enables or disables to wake up the system from a power saving mode using a PS2 keyboard or mouse.	**Enabled** Disabled
Wake Up by USB KB/ Mouse	If enabled, press any key or click the mouse will wake system from S1/ S3 state.	**Enabled** Disabled
Restore On AC Power Loss	Enables or disables the system to reboot after a power failure or interrupt occurs.	Off On **Last State**

Authentication(For Win8 only)



Parameter	Description	Option
Secure Boot	Secure boot flow control, secure boot is possible only if system rens in user mode.	**Enabled** Disabled
Secure Boot Mode	When standard, fixed secure boot policy. When custom, changeable secure boot key databases.	**Standard** Custom

Security



Parameter	Description	Option
Supervisor Password	This item indicates whether a supervisor password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.	
User Password	This item allows you to change user password.	
Change Supervisor Password	You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.	

Setting a supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.

   A password box will appear.
2. Type a password then press **Enter**.

   The password may consist up to six alphanumeric characters (A-Z, a-z, 0-9)
3. Retype the password to verify the first entry then press **Enter** again.
4. Press **F10**.
5. Select **Yes** to save the new password and close the Setup Utility.

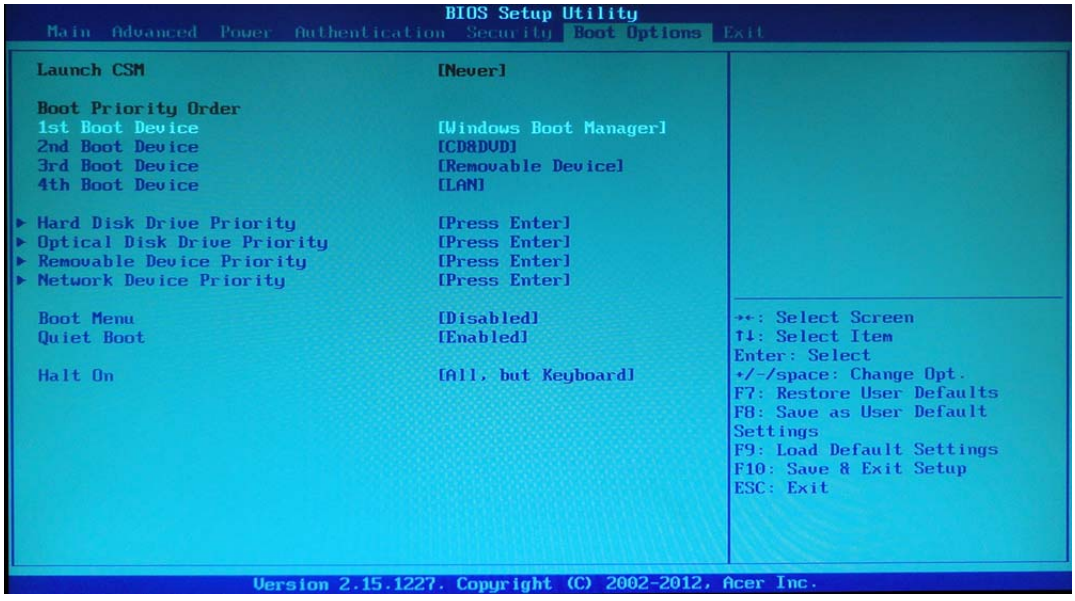
Changing the supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.
2. Type the original password then press **Enter**.
3. Type a new password then press **Enter**.
4. Retype the password to verify the first entry then press **Enter** again.
5. Press **F10**.
6. Select **Yes** to save the new password and close the Setup Utility.

Removing a supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.
2. Enter the current password then press **Enter**.
3. Press **Enter** twice without entering anything in the password fields.

Boot Options


BIOS Setup Utility
Main Advanced Power Authentication Security Boot Options Exit
Launch CSM [Never]
Boot Priority Order
1st Boot Device [Windows Boot Manager]
2nd Boot Device [CD&DVD]
3rd Boot Device [Removable Device]
4th Boot Device [LAN]
Hard Disk Drive Priority [Press Enter]
Optical Disk Drive Priority [Press Enter]
Removable Device Priority [Press Enter]
Network Device Priority [Press Enter]
Boot Menu [Disabled]
Quiet Boot [Enabled]
Halt On [All, but Keyboard]
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-/space: Change Opt.
F7: Restore User Defaults
F8: Save as User Default Settings
F9: Load Default Settings
F10: Save & Exit Setup
ESC: Exit
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1st/2nd/3rd/4th/5th Boot Device	Specifies the boot order from the available devices.	EFI Hard Disk CD^DVD Removable Device LAN
EFI Device Priority	Press **Enter** to access the EFI Device Priority submenu and specify the boot device priority sequence from available EFI devices.	
Hard Disk Drive Priority	Press **Enter** to access the Hard Disk Drive Priority submenu and specify the boot device priority sequence from available hard drives.	
Optical Disk Drive Priority	Press **Enter** to access the Optical Disk Drive Priority submenu and specify the boot device priority sequence from available optical drives.	
Removable Device Priority	Press **Enter** to access the Removable Device Priority submenu and specify the boot device priority sequence from available removable drives.	
Network Device Priority	Press **Enter** to access the Network Device Priority submenu and specify the boot device priority sequence from available network drives.	
Quiet Boot	When enabled, the BIOS splash screen displays during startup. When disabled, the diagnostic screen displays during startup.	**Enabled** Disabled
Halt On	Determines whether the system will stop for an error during the POST.	**All,but keyboard** No Errors All Errors

Exit

BIOS Setup Utility
Main Advanced Power Authentication Security Boot Options Exit
Save & Exit Setup
Discard Changes and Exit Setup
Save Changes
Discard Changes
Load Default Settings
Save as User Default Settings
Load User Default Settings
Exit system setup after saving the changes.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-/Space: Change Opt.
F7: Load User Default Settings
F8: Save as User Default Settings
F9: Load Default Settings
F10: Save & Exit Setup
ESC: Exit
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Parameter	Description
Save & Exit Setup	When you have completed the system configuration changes, select this option to leave the BIOS Setup Utility and reboot the computer, so the new system configuration parameters can take effect. Select Save & Exit Setup from the Exit menu and press Enter.
Discard Changes and Exit Setup	Select this option to quit the BIOS Setup Utility without making any permanent changes to the system configuration, and reboot the computer. Select Discard Changes and Exit Setup from the Exit menu and press Enter.
Save Changes	Select this option and press Enter to save all the changes and return to the BIOS Setup Utility.
Discard Changes	Use this item enables you to discard any changes that you have made.
Load Default Settings	To set this feature, select Load Default Settings from the Exit menu and press Enter. Then, select OK to allow the BIOS to automatically load optimal defaults to the BIOS settings. The Optimal settings are designed for maximum system performance, but may not work best for all computer applications.
Save as User Default Settings	Select this option and press Enter to save changes that you have made as user defaults.
Load User Default Settings	Select this option and press Enter to restore user defaults.

System Disassembly and Assembly

This chapter contains step-by-step procedures on how to disassemble and assembly the desktop computer for maintenance and troubleshooting.

Disassembly Requirements

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- Flat-blade screwdriver
- Philips screwdriver
- Hex screwdriver
- Plastic flat-blade screwdriver
- Plastic tweezers

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components.

Pre-disassembly Procedure

Before proceeding with the disassembly procedure, perform the steps listed below:

1. Turn off the system and all the peripherals connected to it.
2. Unplug the power cord from the power outlets.
3. Unplug the power cord from the system.
4. Unplug all peripheral cables from the system.
5. Place the system unit on a flat, stable surface.

Removing the Side Panel

1. Remove the two screws located on the rear edge of the side panel.

2. Slide the side panel toward the back of the chassis until the tabs on the cover disengage with the slots on the chassis.
3. Lift the side panel away from the server and put it aside for reinstallation later.

Removing the Front Bezel

1. Release the front bezel retention tabs from the chassis interior.

2. Pull the bezel away from the chassis.

Removing the Heat Sink Fan Assembly

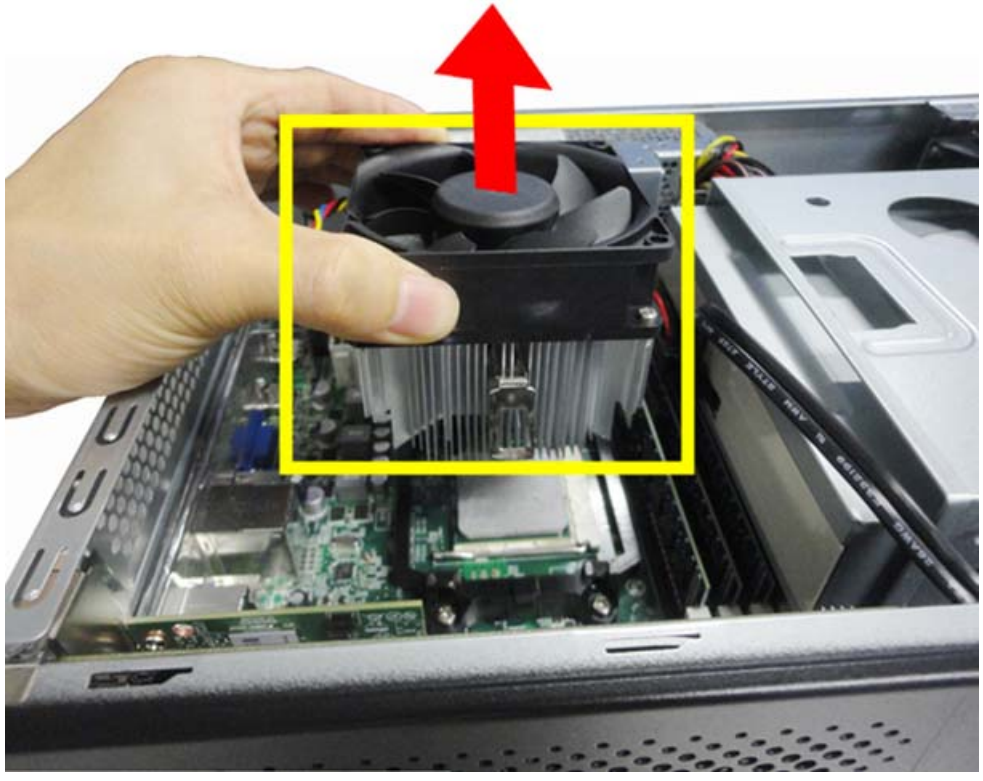
WARNING: The heat sink becomes very hot when the system is on. NEVER touch the heat sink with any metal or with your hands.

1. Loosen the hook of heat sink as shown below.

2. Disconnect tache of heat sink away from the retention frame.

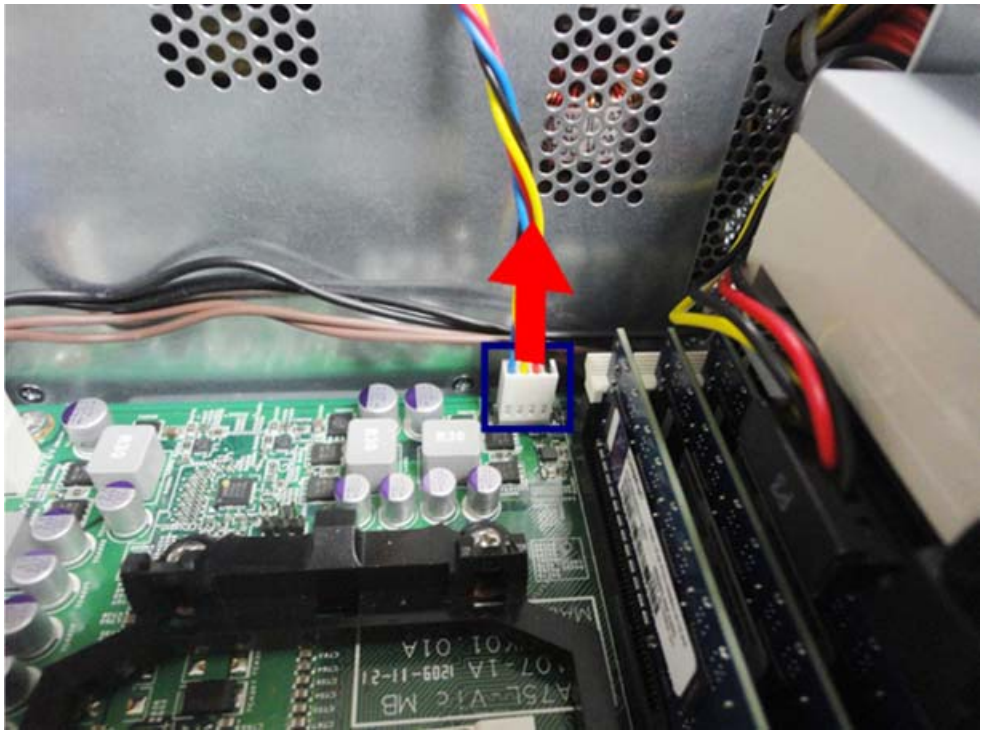
3. Disconnect the other end tache of heat sink away from the retention frame.

4. Lift the heat sink fan assembly away from the mainboard.



Note:CPU Fan has been highlighted with the yellow rectangle as above image shows.Please detach the CPU Fan and follow local regulations for disposal.

5. Lay down the heat sink fan assembly, in an upright position, on top of the optical drivey, as shown below, then disconnect the fan cable from the mainboard connector.



6. Remove the heat sink fan assembly from the chassis then lay it down in an upright position—with the thermal patch facing upward. Do not let the thermal patch on the heat sink fan assembly touch the work surface.
7. Use an alcohol pad to wipe off the thermal grease from both the heat sink and the processor.

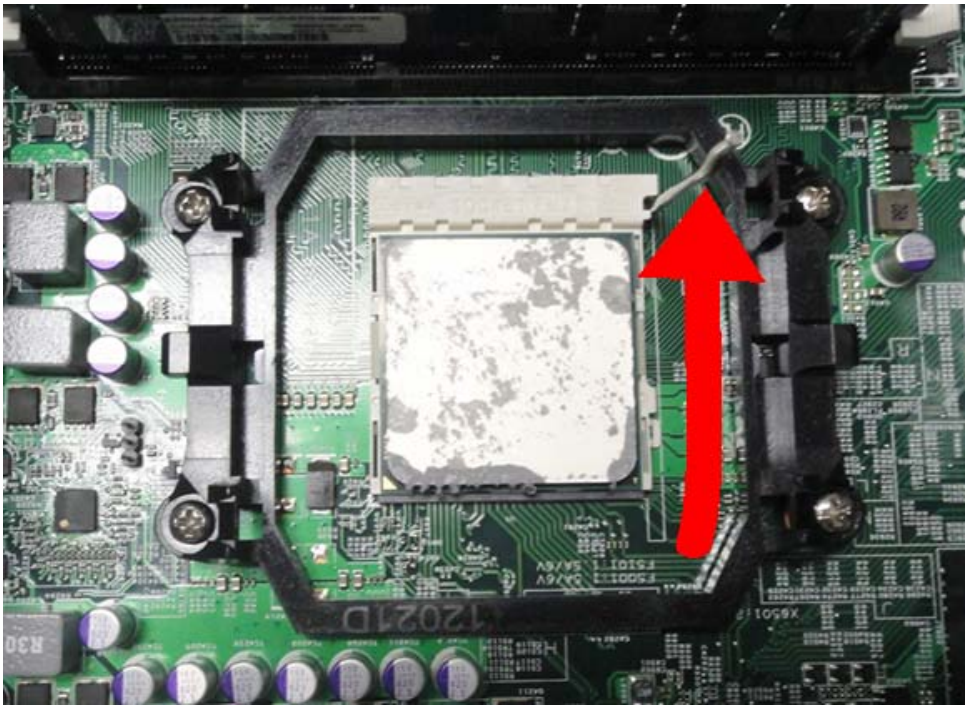
Removing the Processor

IMPORTANT: Before removing a processor from the mainboard, make sure to create a backup file of all important data.

WARNING: The processor becomes very hot when the system is on. Allow it to cool off first before handling.

1. Release the load lever.

2. Lift the load lever to the fully open, upright position.



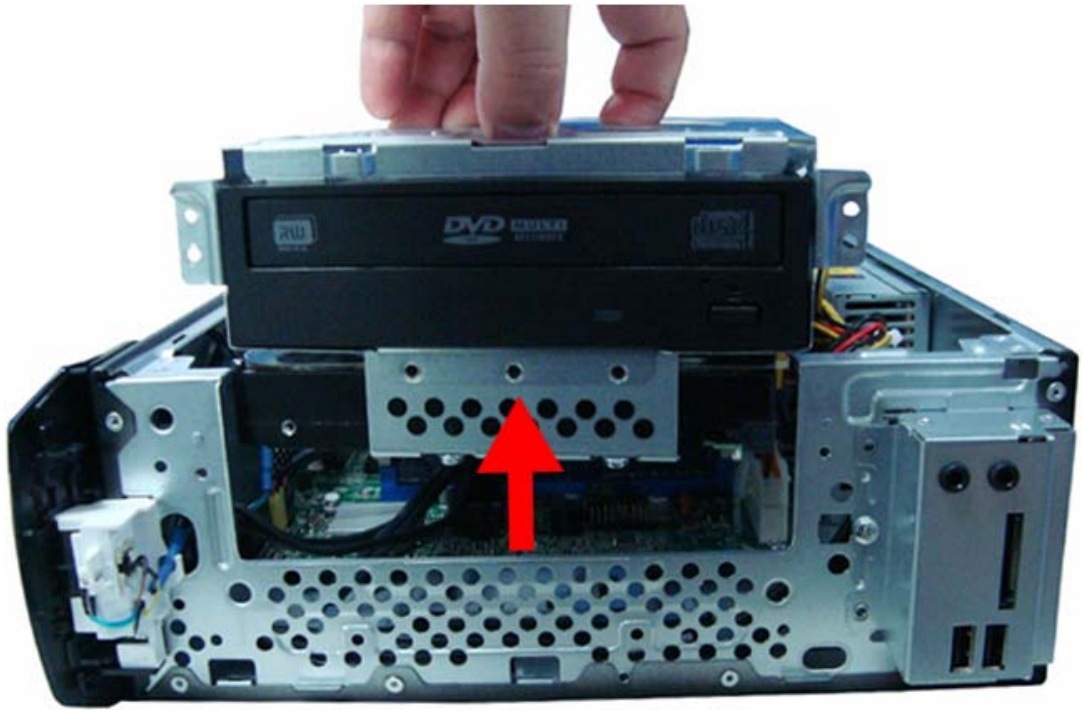
3. Pull out the processor from the socket.

IMPORTANT: If you are going to install a new processor, note the arrow on the corner to make sure the processor is properly oriented over the socket.

Removing the HDD-ODD Bracket

1. Remove the two screws that secure the HDD-ODD bracket to the chassis.

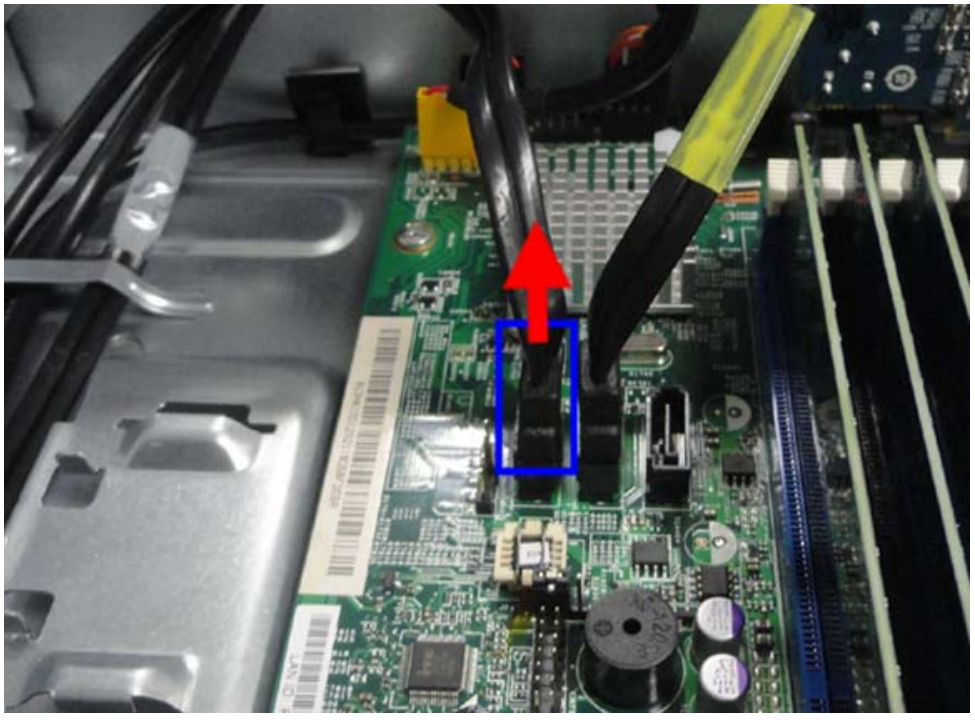
2. Lift the bracket up.



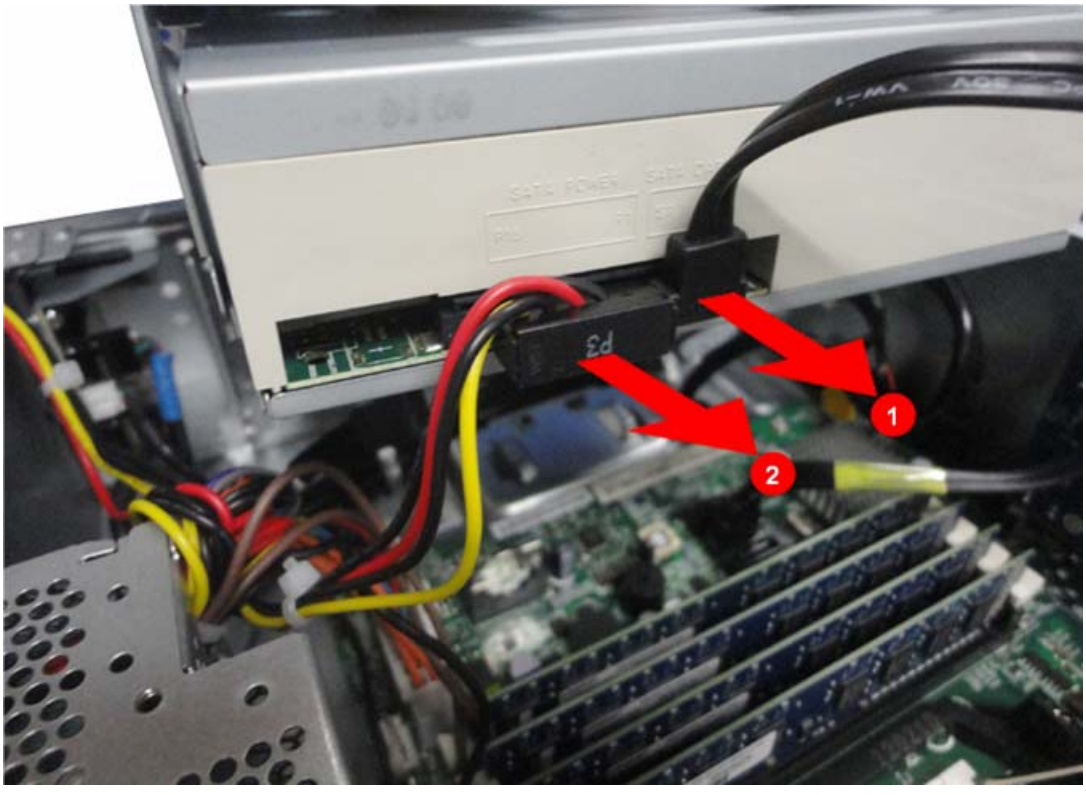
Removing the Optical Drive and the Hard Disk Drive

1. Disconnect the SATA (1) and power (2) cables from the rear of the hard disk drive.

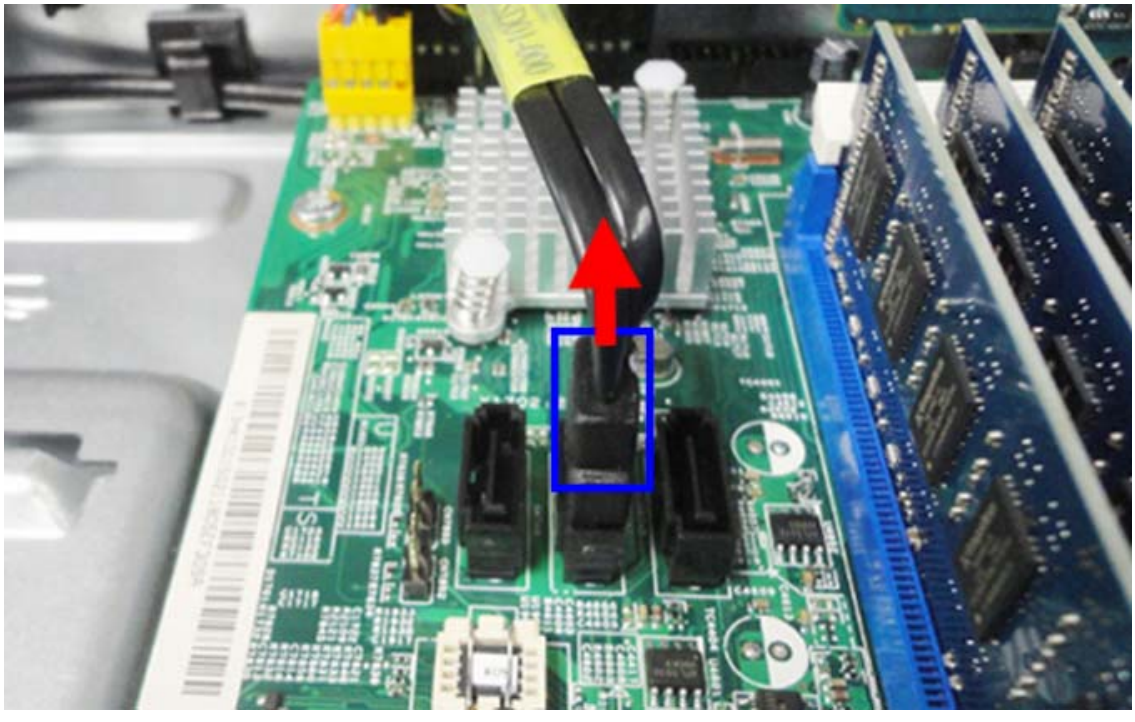
2. Disconnect the other end of the SATA cable from the mainboard.



3. Disconnect the SATA (2) and power (1) cables from the rear of the optical drive.



4. Disconnect the other end of the SATA cable from the mainboard.

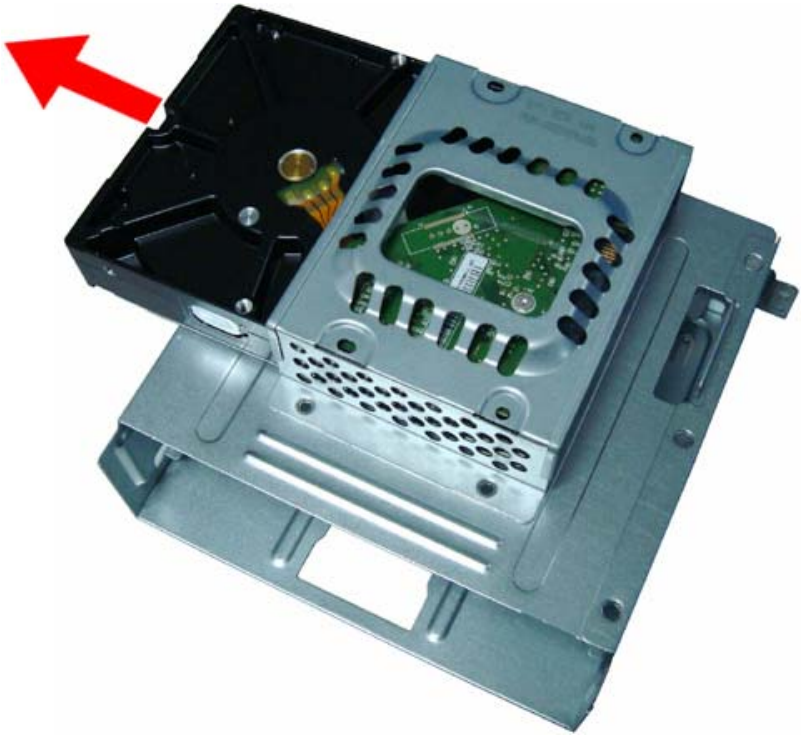


5. Remove the screws that secure the optical drive to the HDD-ODD bracket.

6. Pull the optical drive out of the drive bay.

7. Remove the four screws that secure the hard disk drive to the HDD bracket.

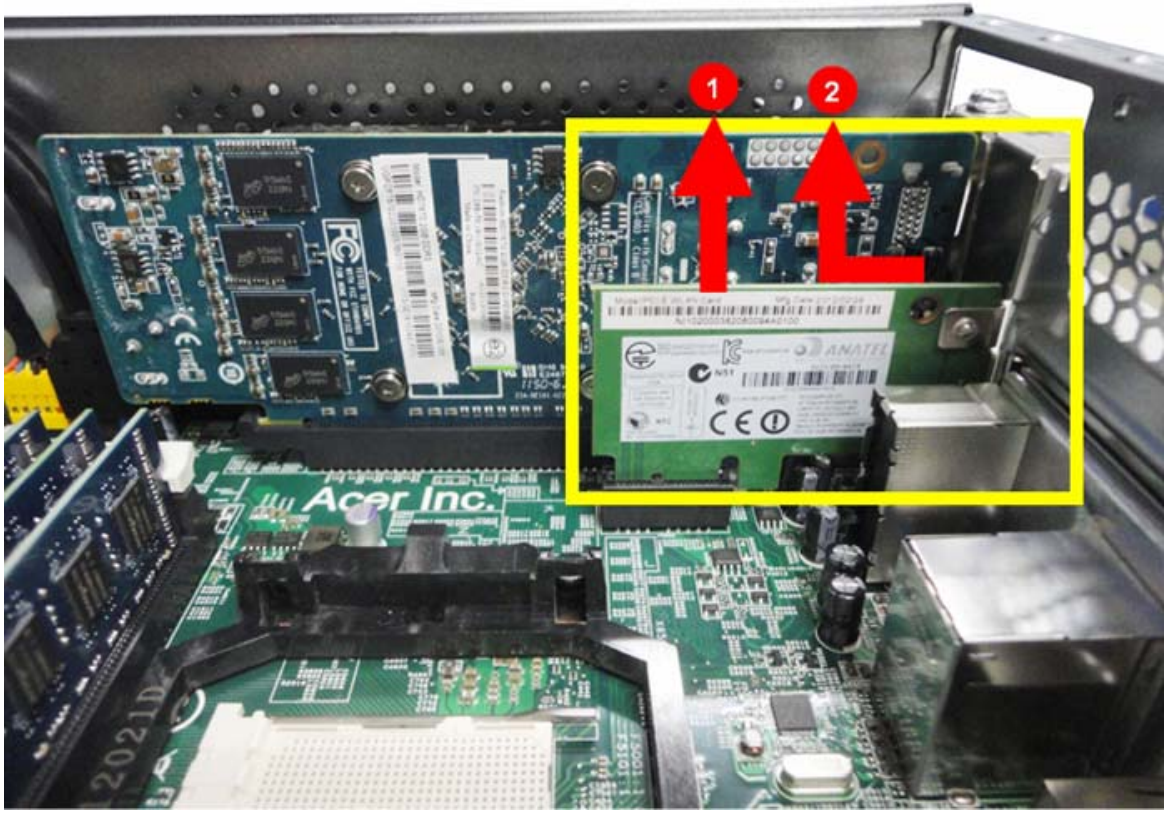
8. Slide the hard disk drive out of the bracket.



Removing the Wireless Lan Card

1. Remove the screw from the expansion board bracket opposite the PCIE1X 1 slot.

2. Gently pull up the expansion board (1), move it slightly to the left and remove (2) from the slot.

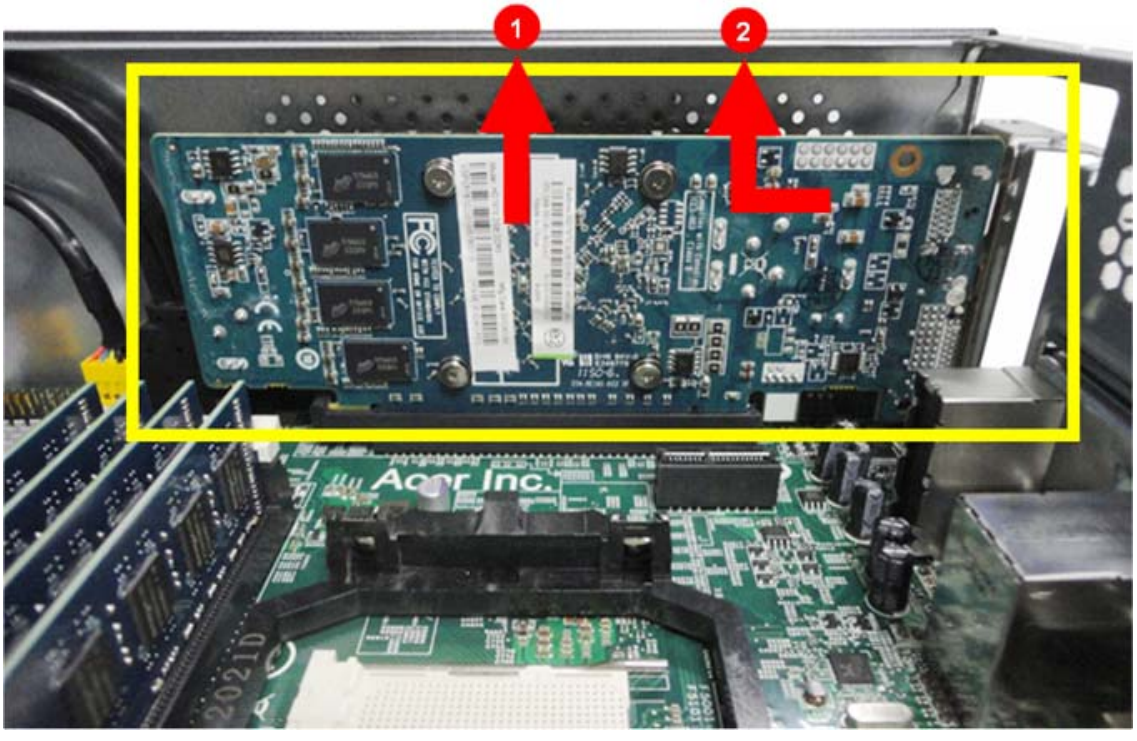


Note: Circuit boards >10 cm² has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal.

Removing the VGA Card

1. Remove the screws that secures the card to the chassis.

2. Gently pull the card to remove it from the mainboard.

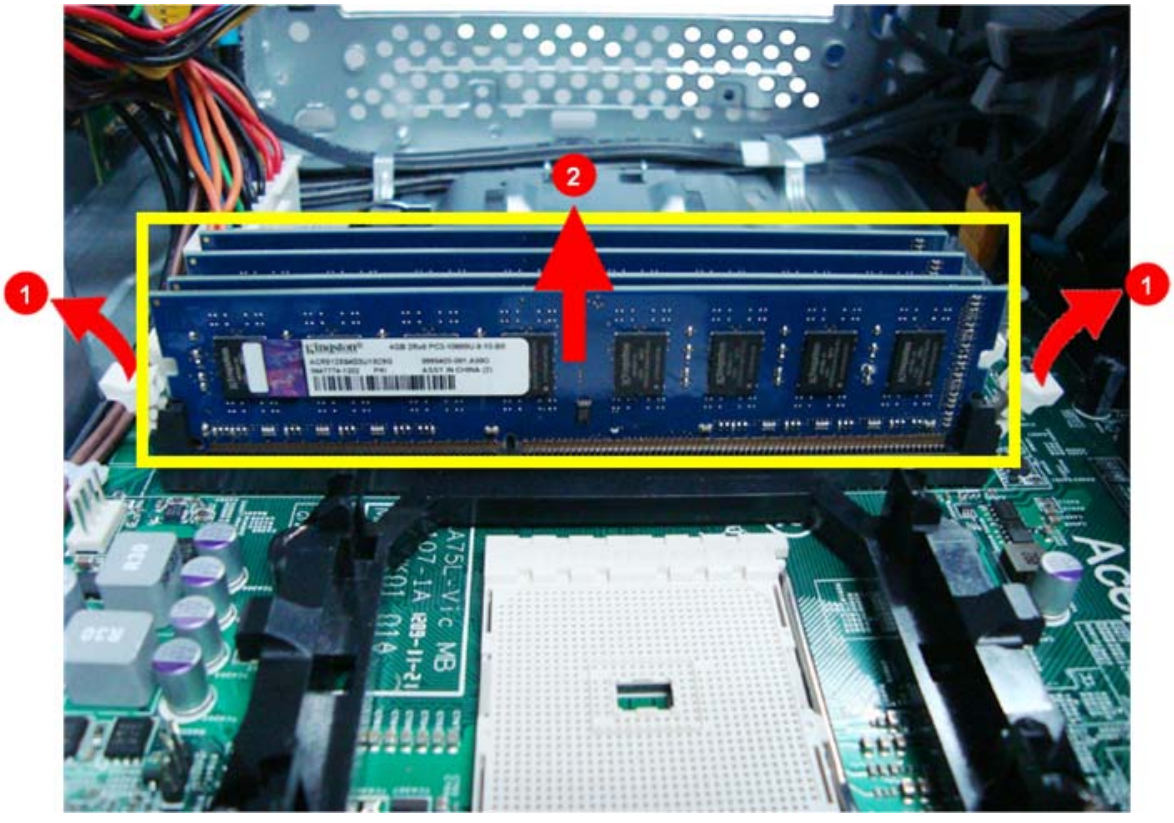


Note: Circuit boards >10 cm² has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal.

Removing the Memory Modules

IMPORTANT: Before removing any DIMM from the memory board, make sure to create a backup file of all important data.

1. Press the holding clips on both sides of the DIMM slot outward to release the DIMM(1).
2. Gently pull the DIMM upward to pull it away from the M/B(2).

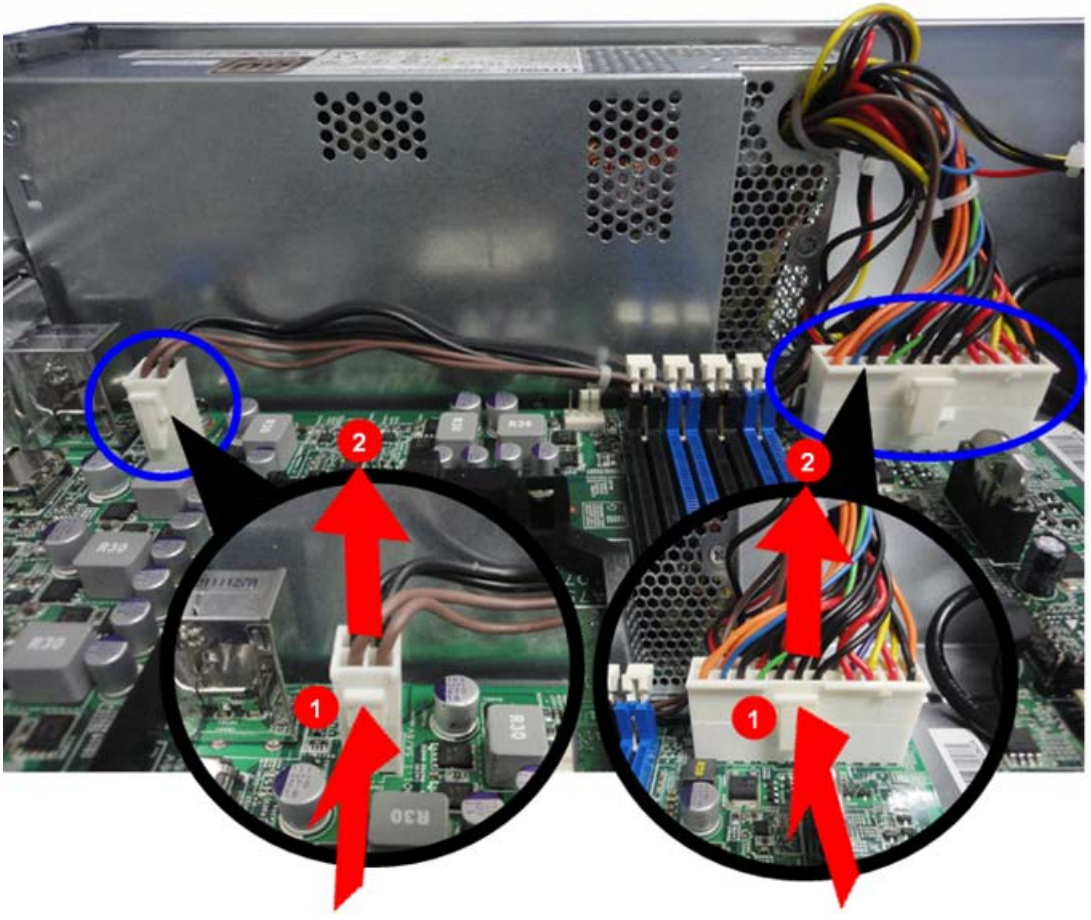


Note: Circuit boards >10 cm² has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal.

3. Repeat steps 1 and 2 to remove the second memory module from the DIMM2, DIMM3, DIMM4 slot.

Removing the Power Supply

1. Disconnect the ATX power supply cables from its mainboard connector.
   a. Squeeze on the retaining latch (1) attached to the cable end of the connector.
   b. Grasp the cable end of the connector and pull it straight up (2).



2. Remove the screw that secures the power supply to the chassis.

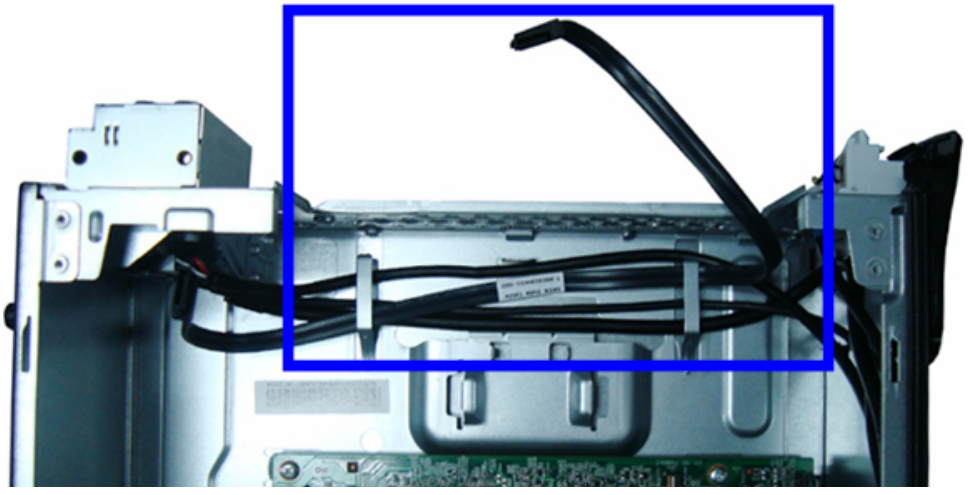
3. Remove the three screws that secure the power supply to the rear panel.

4. Pull the the power supply module toward the right.

5. Tilt the power supply module slightly to the outside(1) and lift it out of the chassis(2).

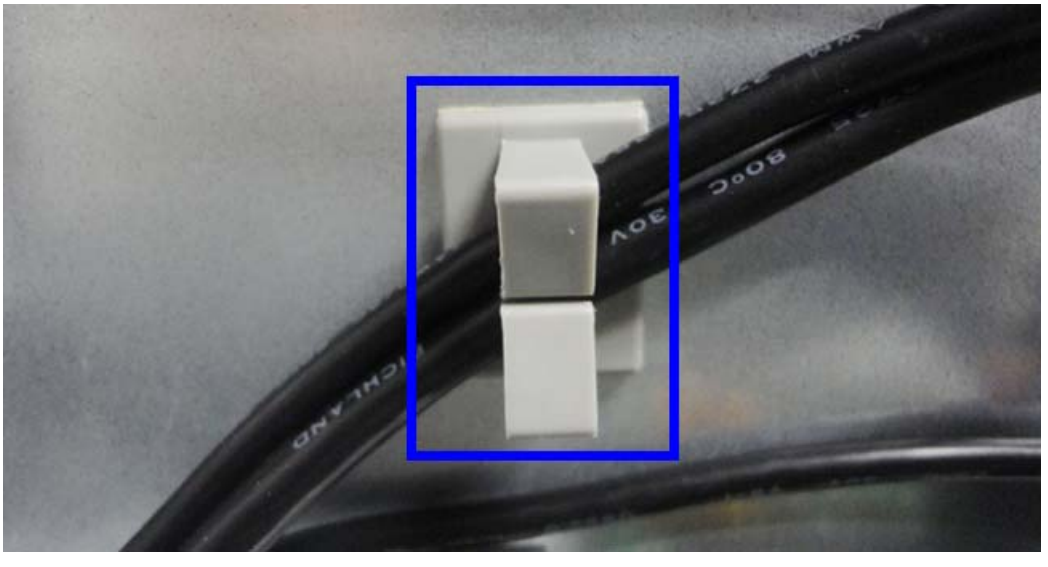
Removing the Mainboard

1. Release the HDD data cable from the metal clip.

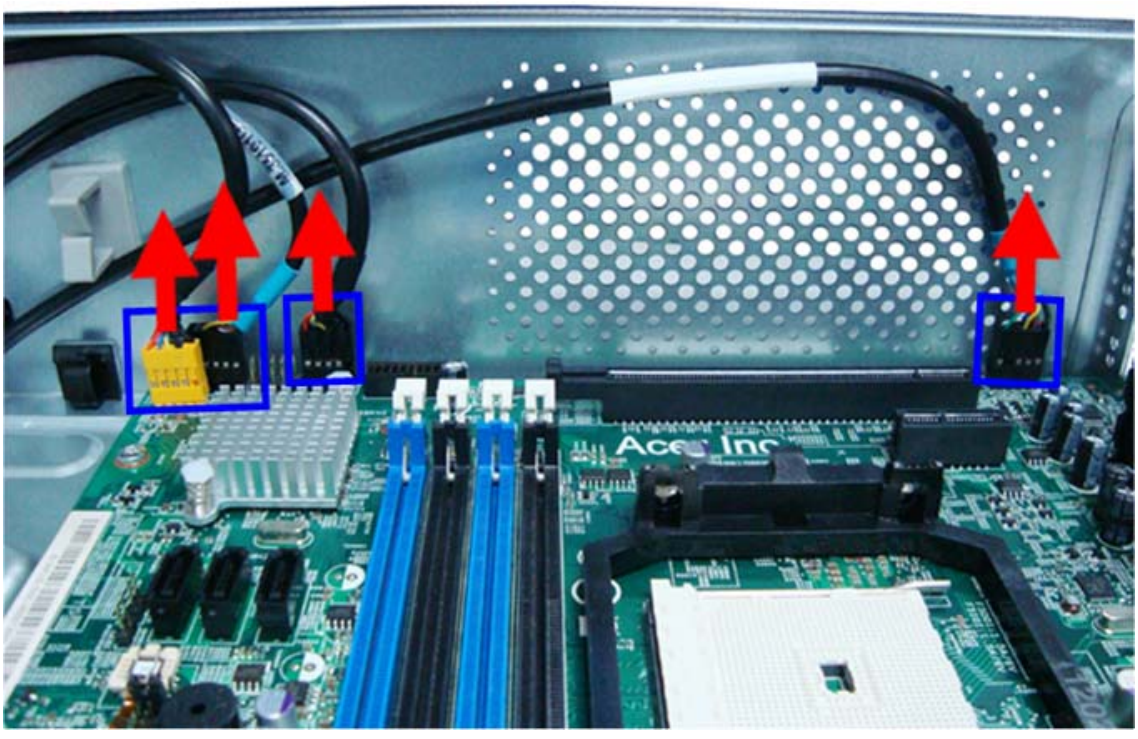


1. Release the audio cable from plastic clip.

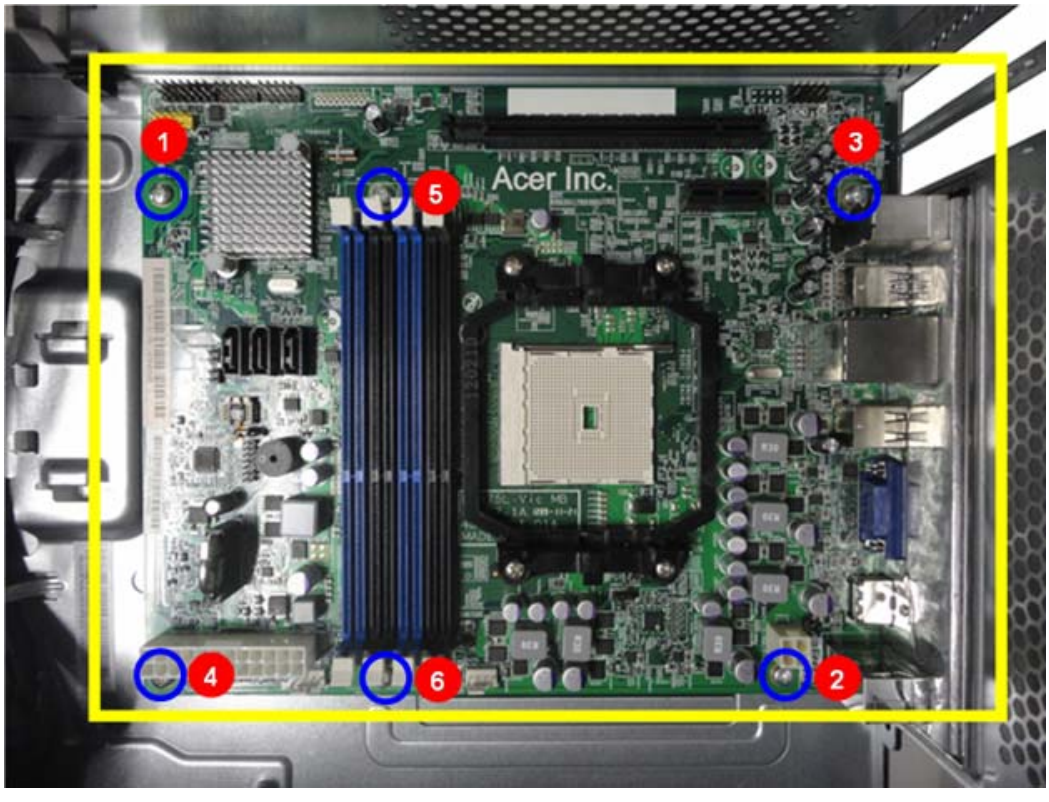
2. Releas the USB and card reader cable from plastic clip.



3. Dsconnect the power switch, USB, Audio and card reader cable from their mainboard connectors.



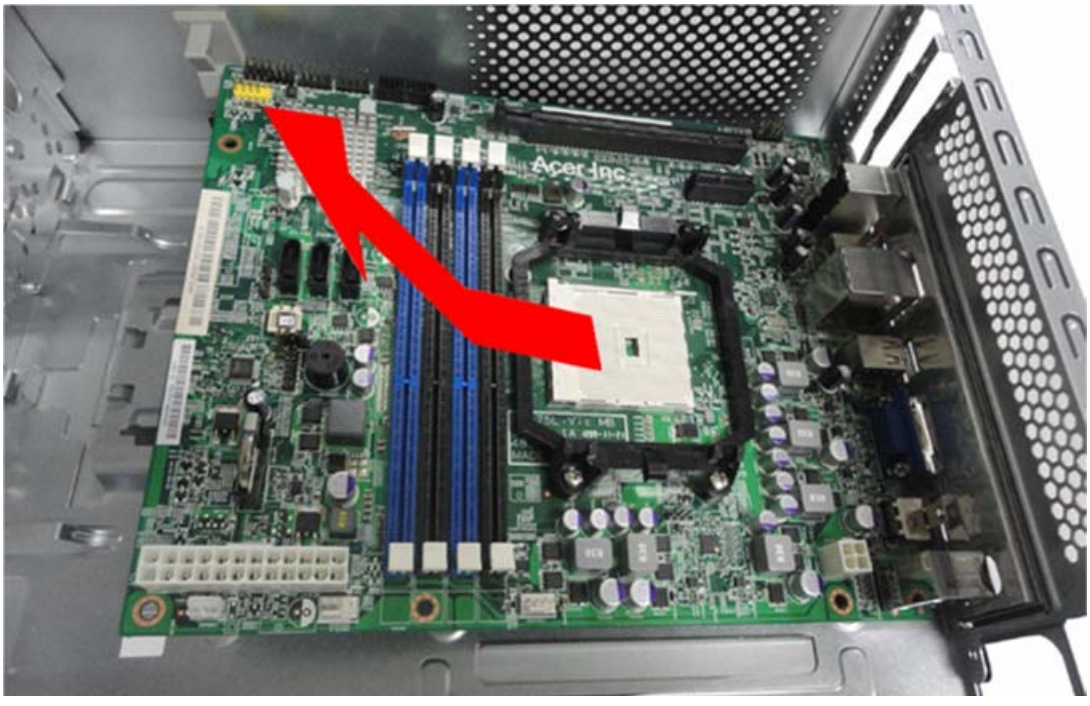
4. Remove the six screws that secure the mainboard to the chassis.



Note:Circuit boards >10 cm² has been highlighted with the yellow rectangle as above image shows.

Please detach the Circuit boards and follow local regulations for disposal.

5. Lift the board from the chassis.



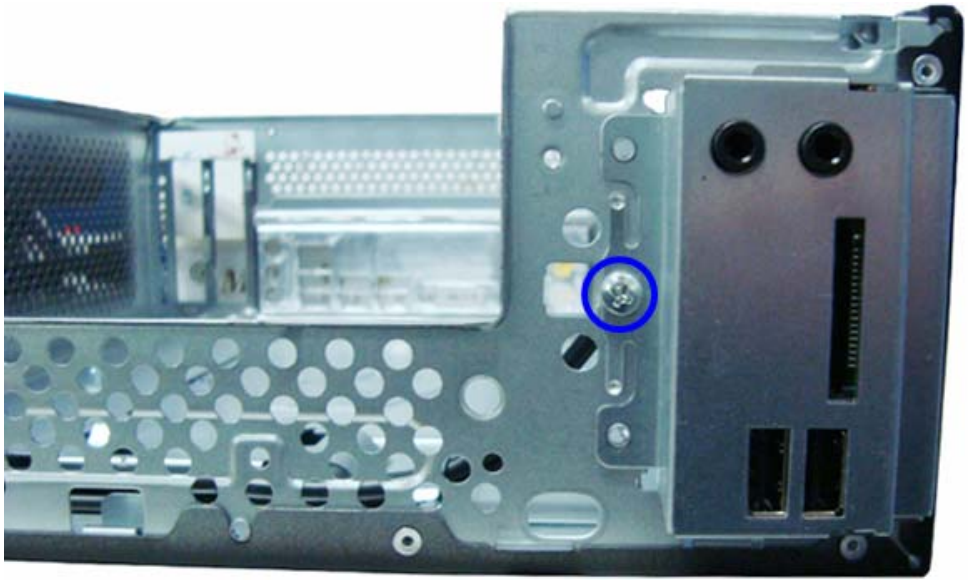
6. Punching in IO Shield then you can remove it.

7. Remove the RTC battery.

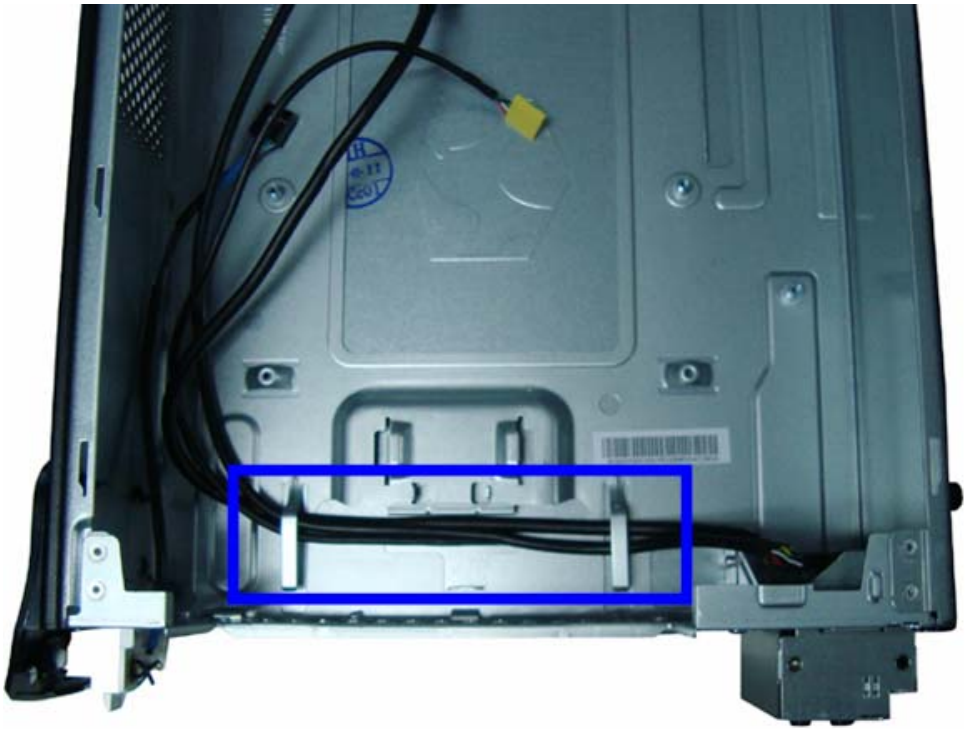
Note:RTC battery has been highlighted with the yellow circle as above image shows.Please detach the RTC battery and follow local regulations for disposal.

Removing the Front I/O&USB and Card Reader Boards Assembly

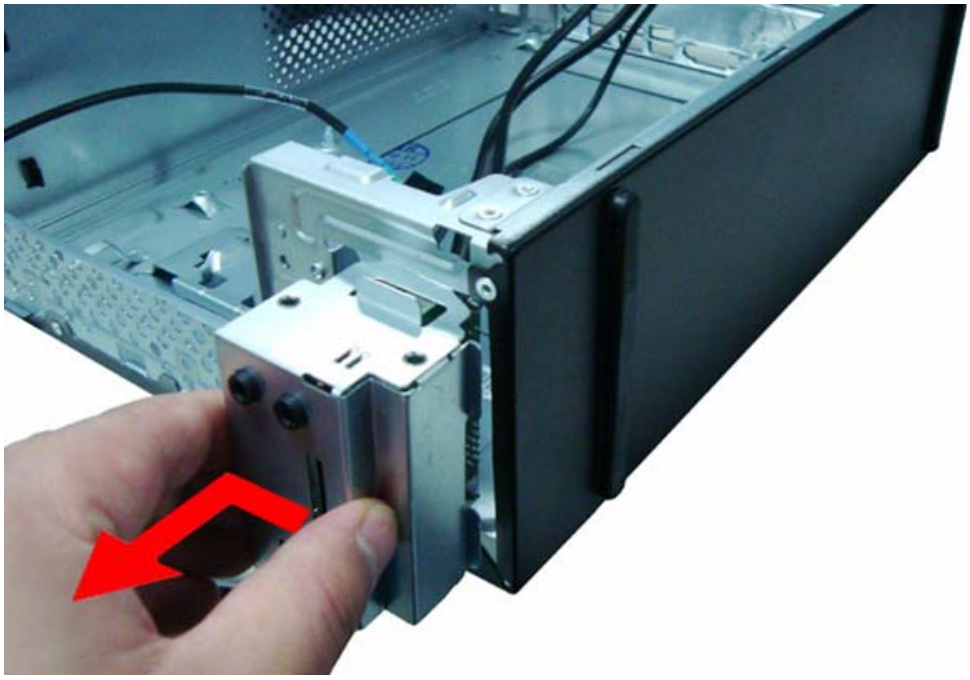
1. Remove the screw that secure the front I/O, USB and card reader boards assembly to chassis.



2. Release these cables from the metal clip.

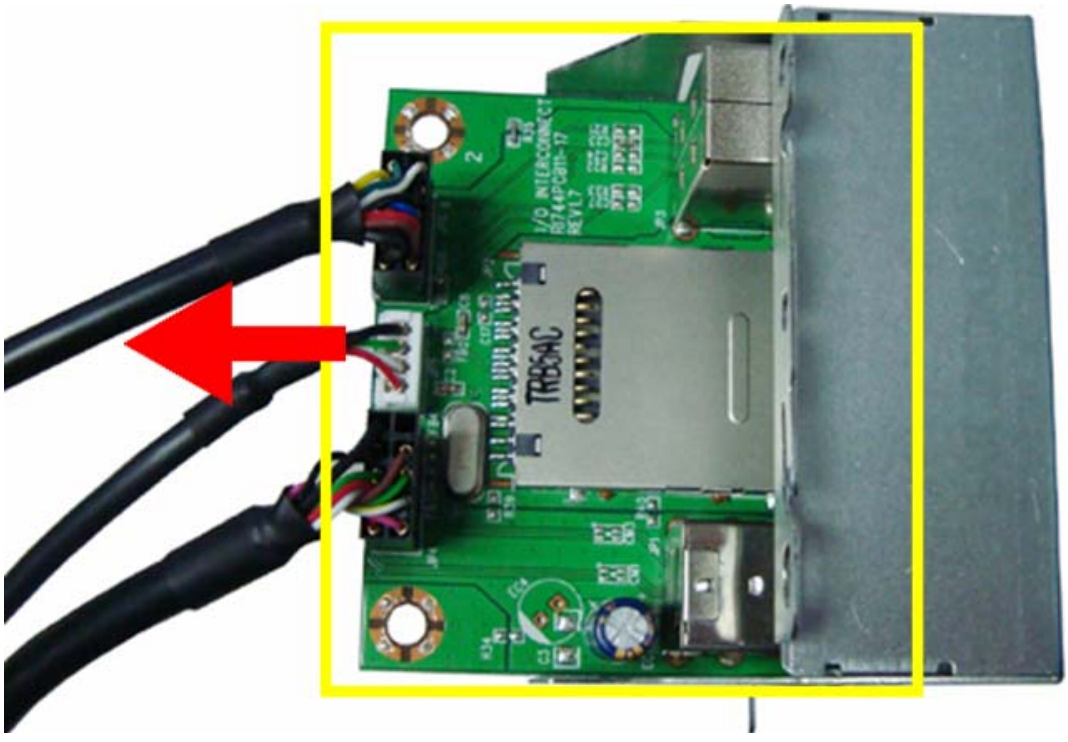


3. Pull the front I/O, USB and card reader boards assembly from chassis.



4. Remove the two screws that secure the front I/O, USB and card reader boards assembly to the bracket.

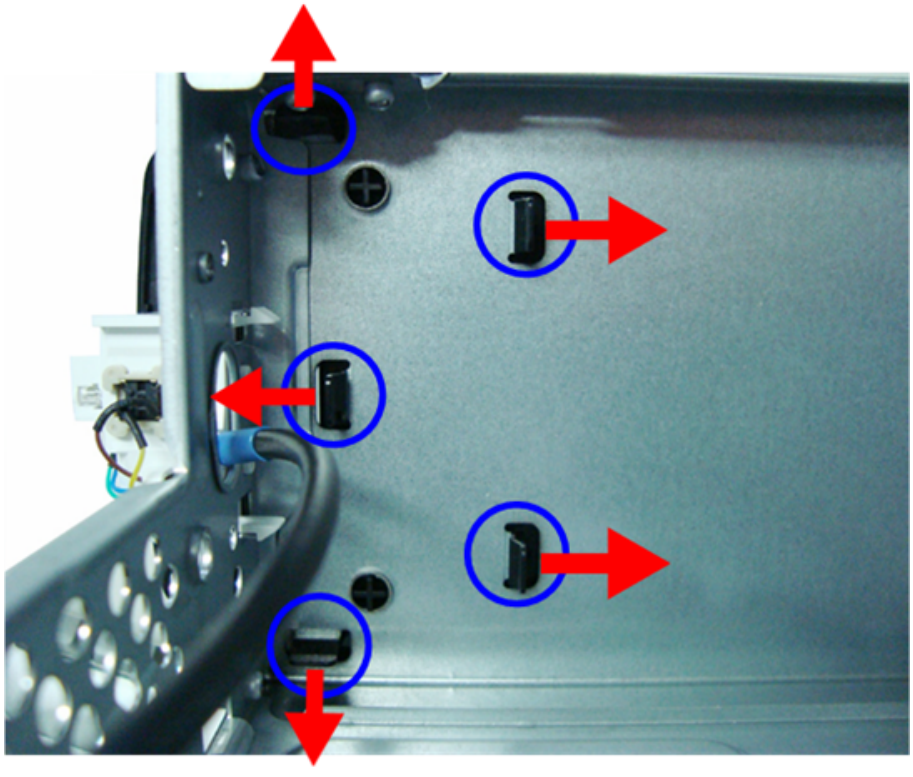
c. Pull tthe front I/O, USB and card reader boards assembly out of the bracket.



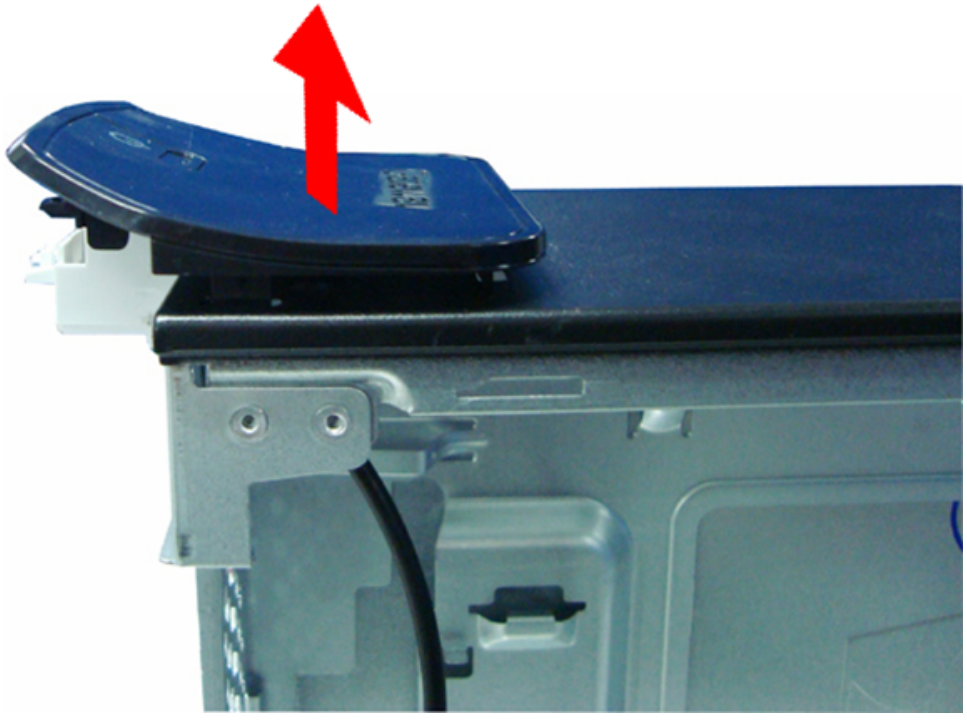
Note:Circuit boards >10 cm² has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local regulations for disposal.

Removing the Top Cover

1. Gently release the top bezel retention tabs from the chassis interior.

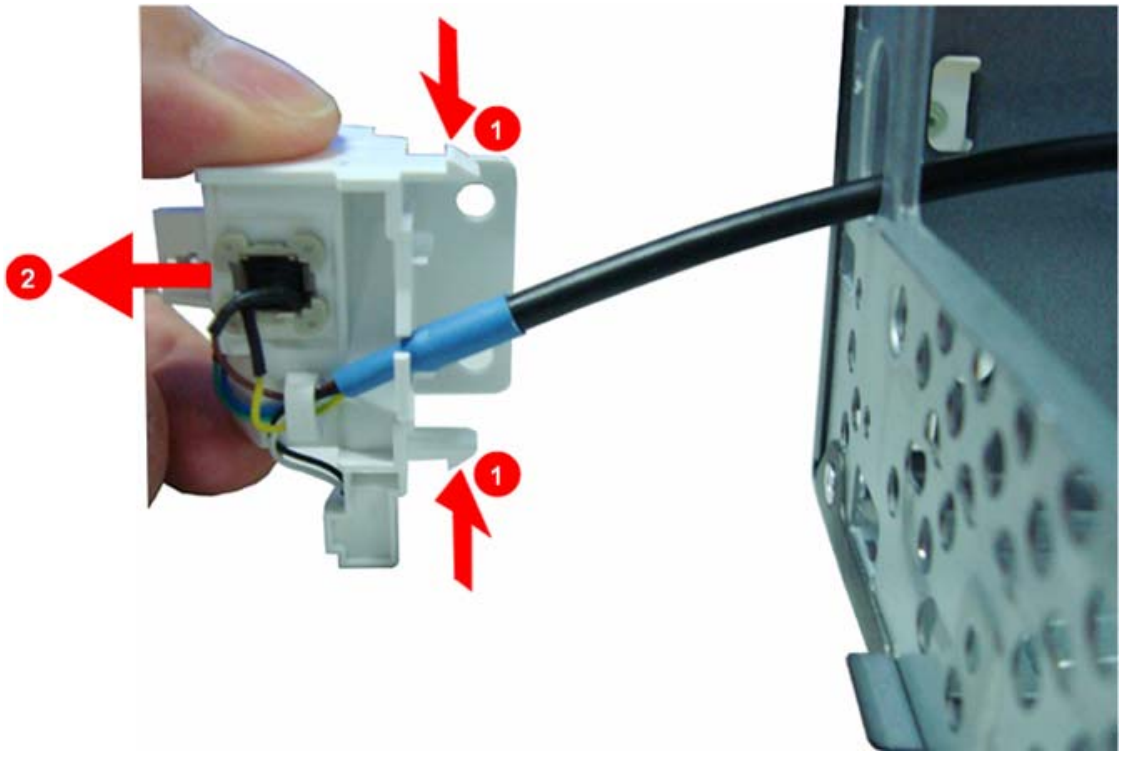


2. Pull the top cover away from the chassis.



Removing the Power Switch and LED Cable Assembly

1. Release the two locking tabs (1) and gently pull the power switch and LED cable out (2).



Assembly Requirements

To assemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- Flat-blade screwdriver
- Philips screwdriver
- Hex screwdriver
- Plastic flat-blade screwdriver
- Plastic tweezers

NOTE: The screws for the different components vary in size. During the assembly process, group the screws with the corresponding components to avoid mismatch when putting back the components.

Assembly Procedure

Before proceeding with the assembly procedure, perform the steps listed below:

1. Turn off the system and all the peripherals connected to it.
2. Unplug the power cord from the power outlets.
3. Unplug the power cord from the system.
4. Unplug all peripheral cables from the system.
5. Place the system unit on a flat, stable surface.

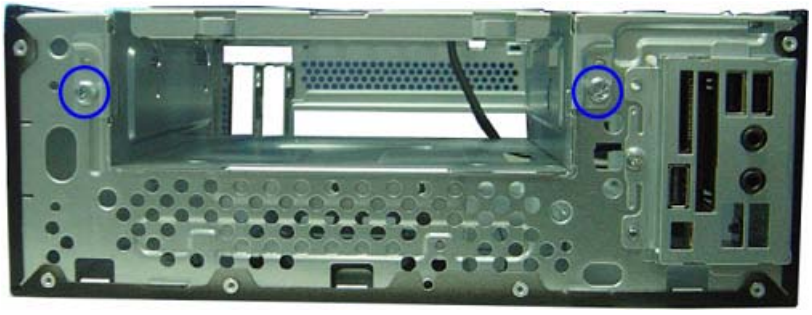
Removing the Side Panel

1. Remove the two screws located on the rear edge of the side panel.

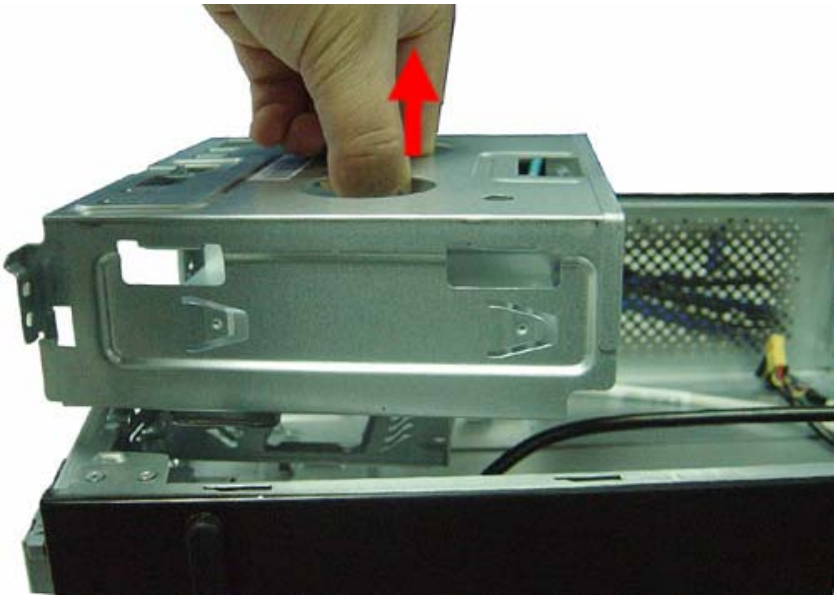
2. Slide the side panel toward the back of the chassis until the tabs on the cover disengage with the slots on the chassis.
3. Lift the side panel away from the server and put it aside for reinstallation later.

Removing the ODD-HDD Bracket

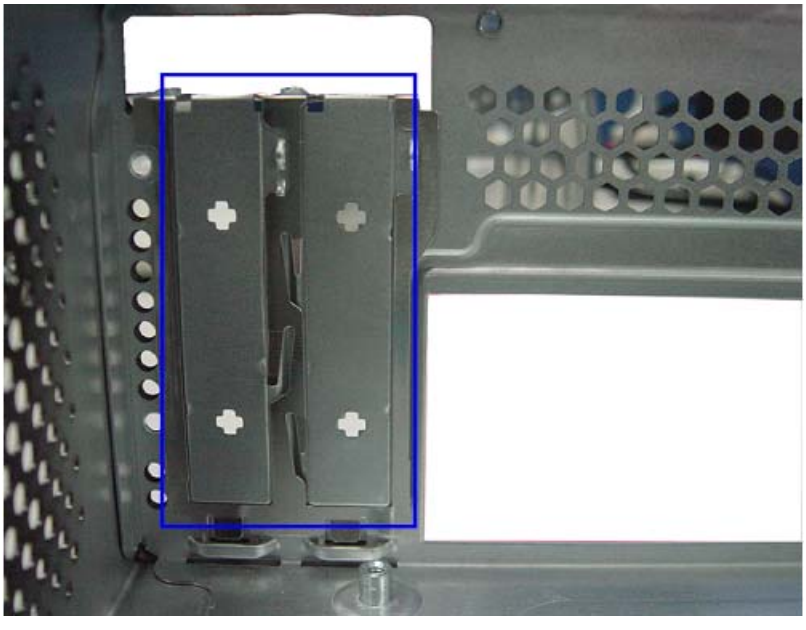
1. Remove the front bezel.(Refer to “Removing the Front Bezel” on page 27).
2. Remove the two screws from chassis.



3. Lift the cage up and turn it over.



4. Punching in PCI Shelf slice then you can remove it.

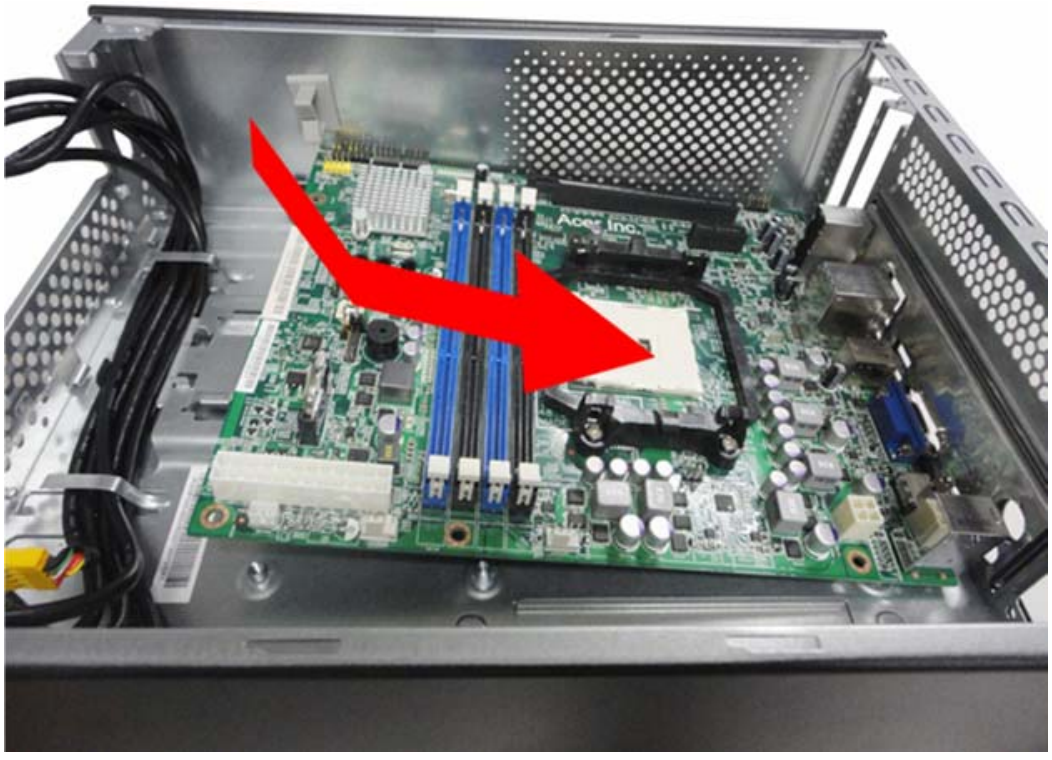


Reinstalling the I/O Shielding

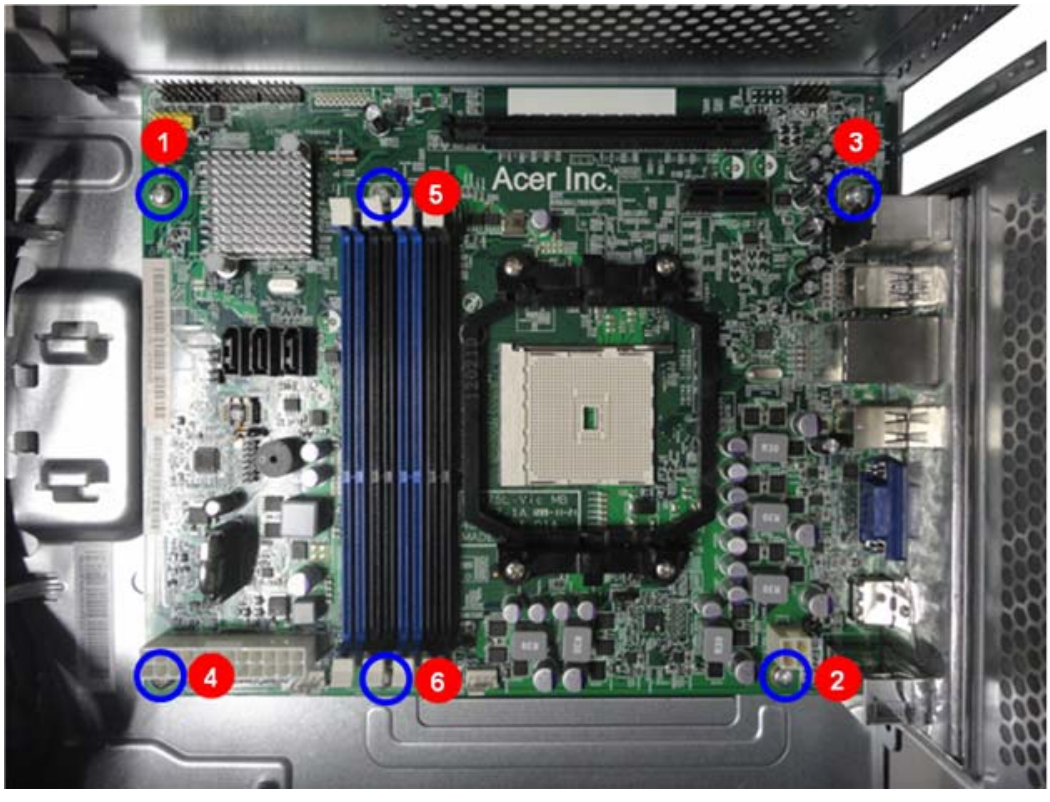
1. Install I/O shielding into chassis.

Reinstalling the Main Board

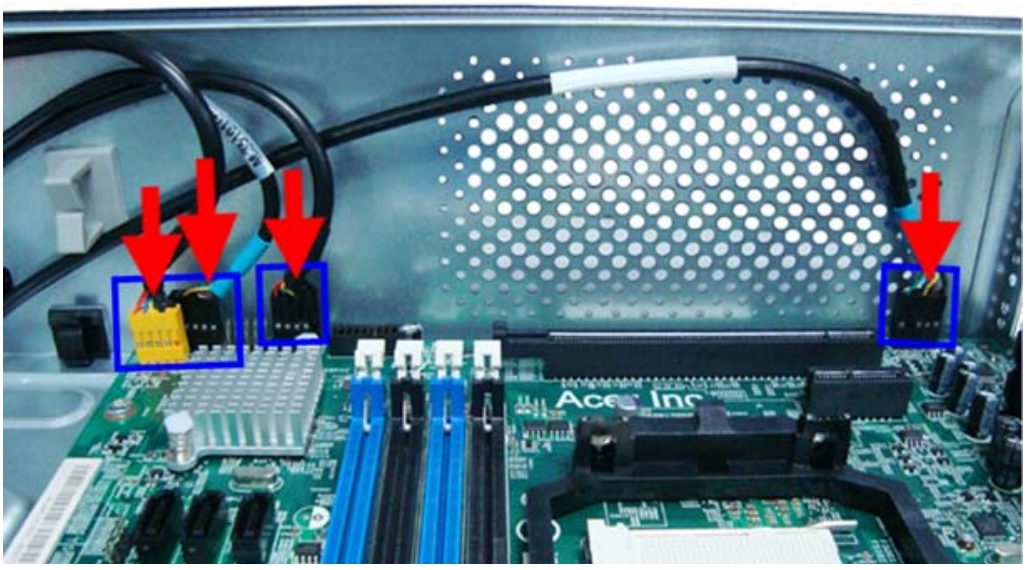
1. Slide the mainboard into the chassis, with the I/O ports of the mainboard extruding from their port holes, then lower the mainboard in place.



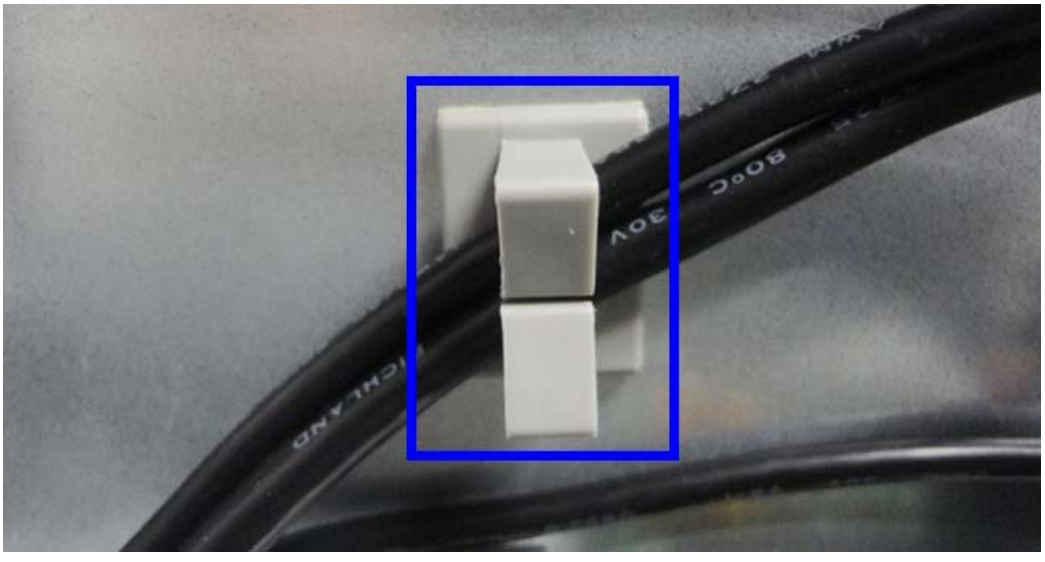
2. Make sure the screw holes on the main board are aligned with those on the chassis. Secure the mainboard with four screws.



3. Connect the power switch, USB, Audio and card reader cable to the main board connectors.



4. Install the USB and card reader cable into the plastic clip.



5. Install the front audio cable into the plastic clip.

Reinstalling the Power Supply

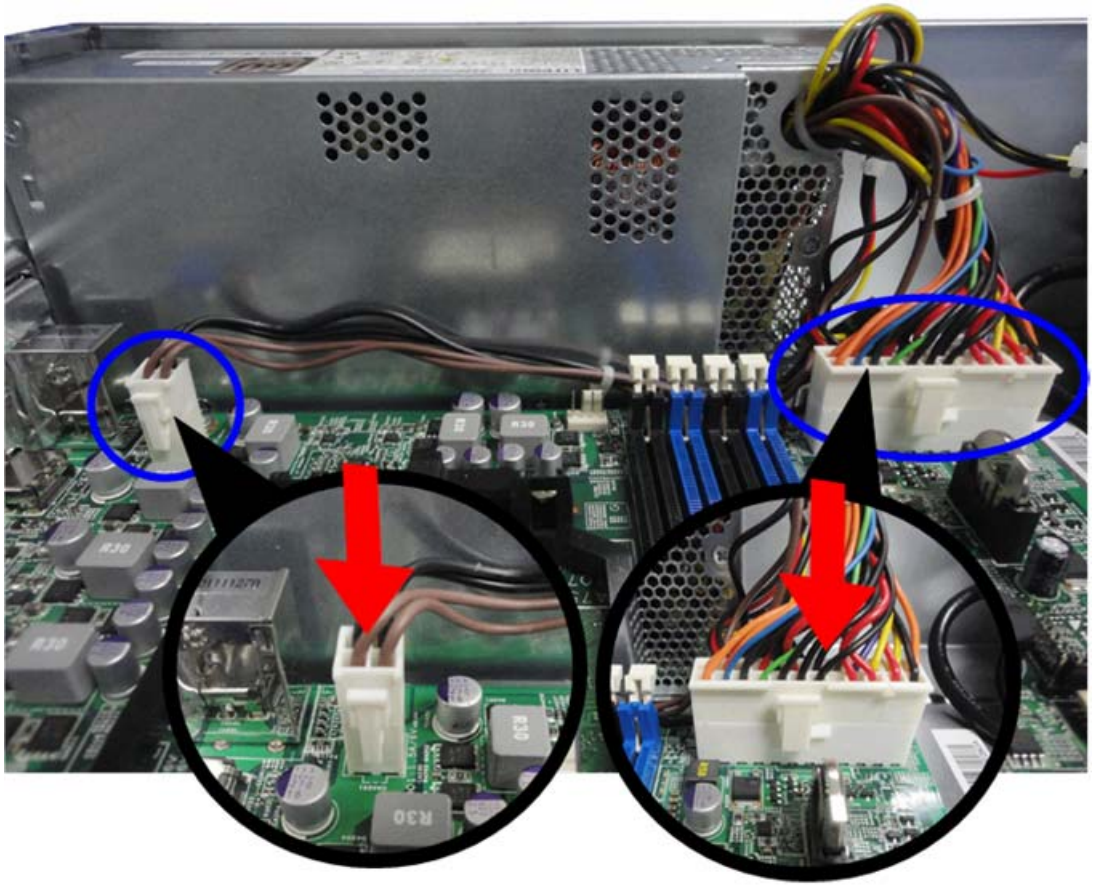
1. Slide the power supply module into the chassis and tilt to the inside.

2. Push the power supply module toward the left, with the power connector extruding from the rear panel.

3. Secure the power supply to the rear panel using three screws.

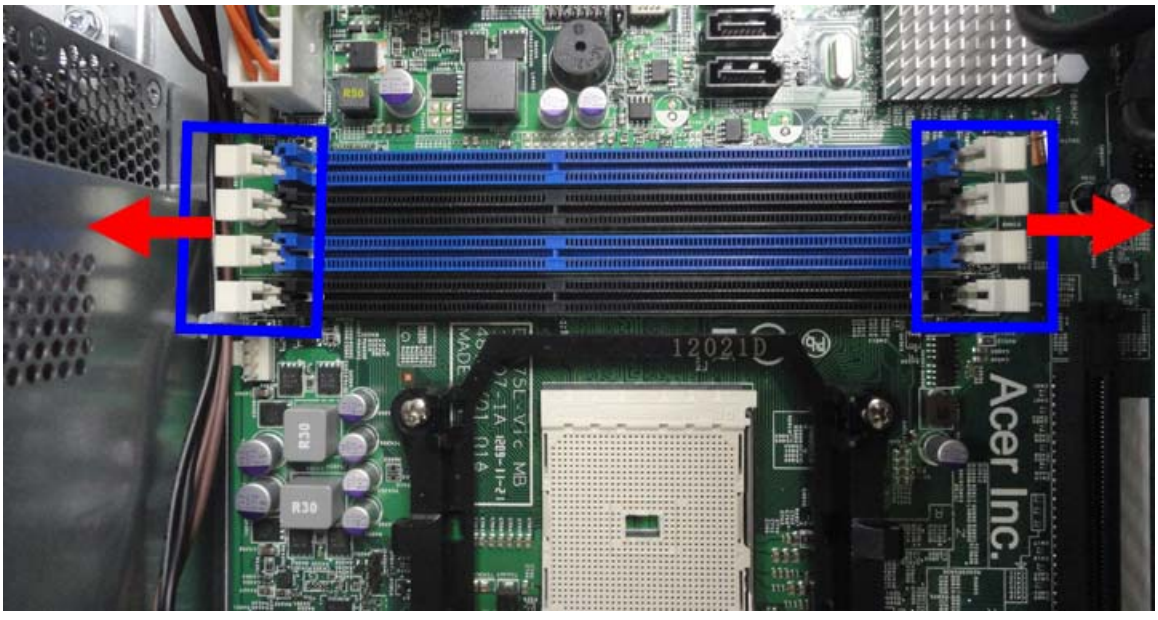
4. Secure the power supply to the chassis using the screw.

5. Connect the ATX 24Pin Power cable and ATX 4Pin Power cable to main board.

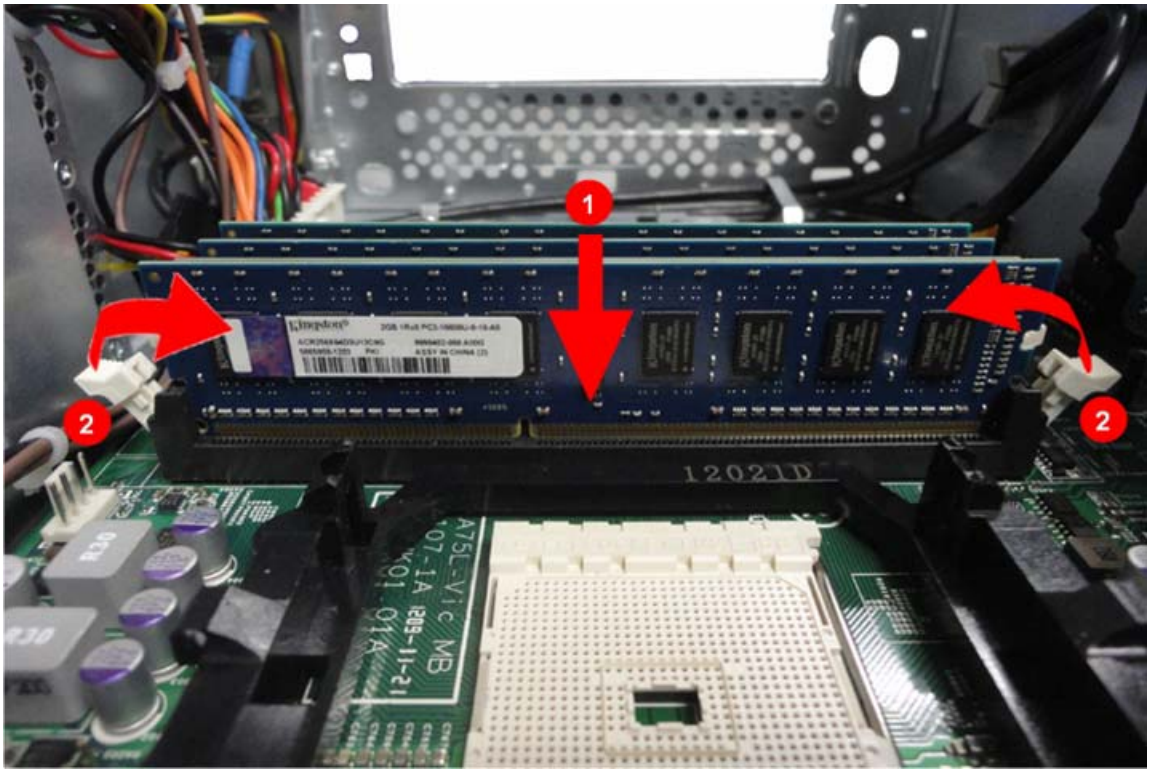


Reinnstalling the Memory

1. Open the holding clips on both sides of the DIMM slot outward.

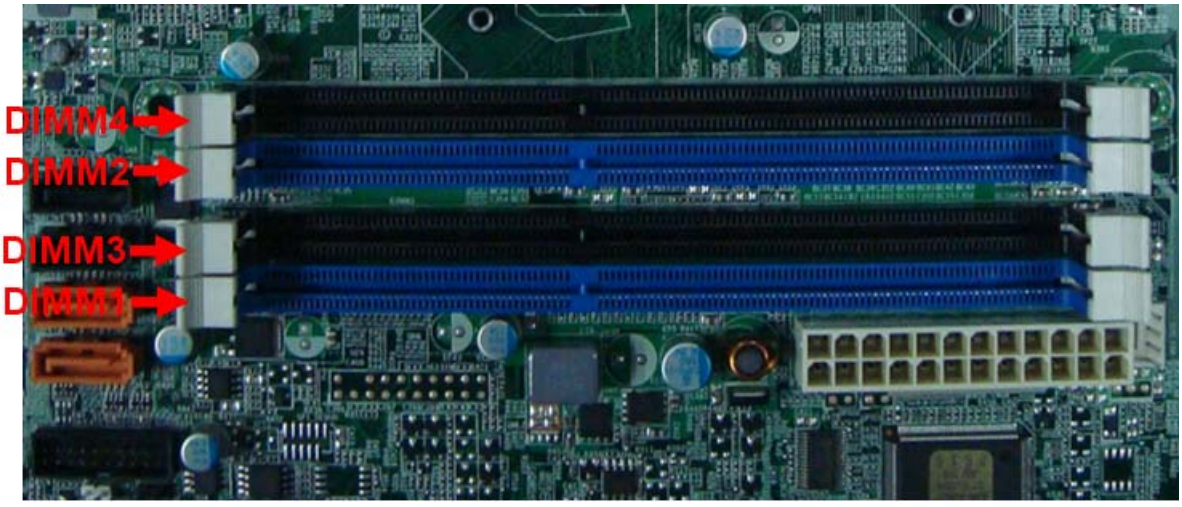


2. Insert the memory module into the DIMM1 slot (1) and then press it down until it clicks into place (2).



3. If a second memory module is available, install it in the DIMM2 slot by repeating step 1.

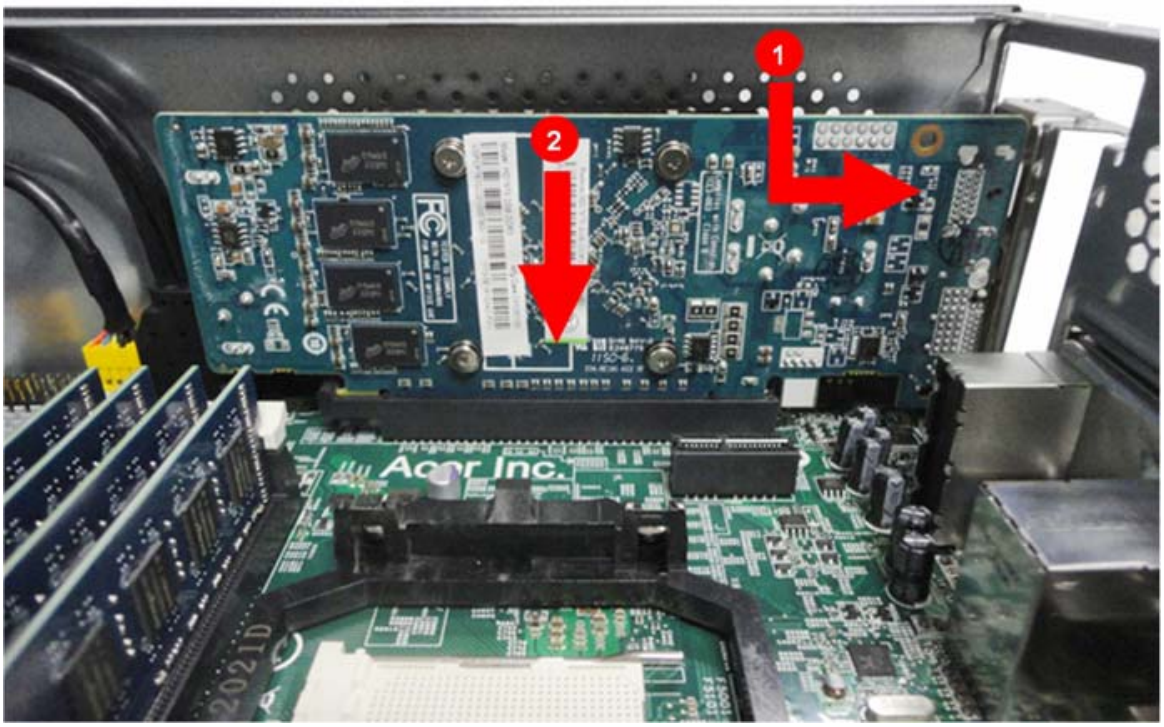
NOTE: Install memory rule as table shown below.



DIMM1	DIMM3	DIMM2	DIMM4
A			
A		A	
A	B		
B	A	B	
A	A	A	
A	B	A	
A	A	A	A
A	B	A	B
Remark:A and B show different size of memory, size:A>B			

Reinstalling the VGA Card

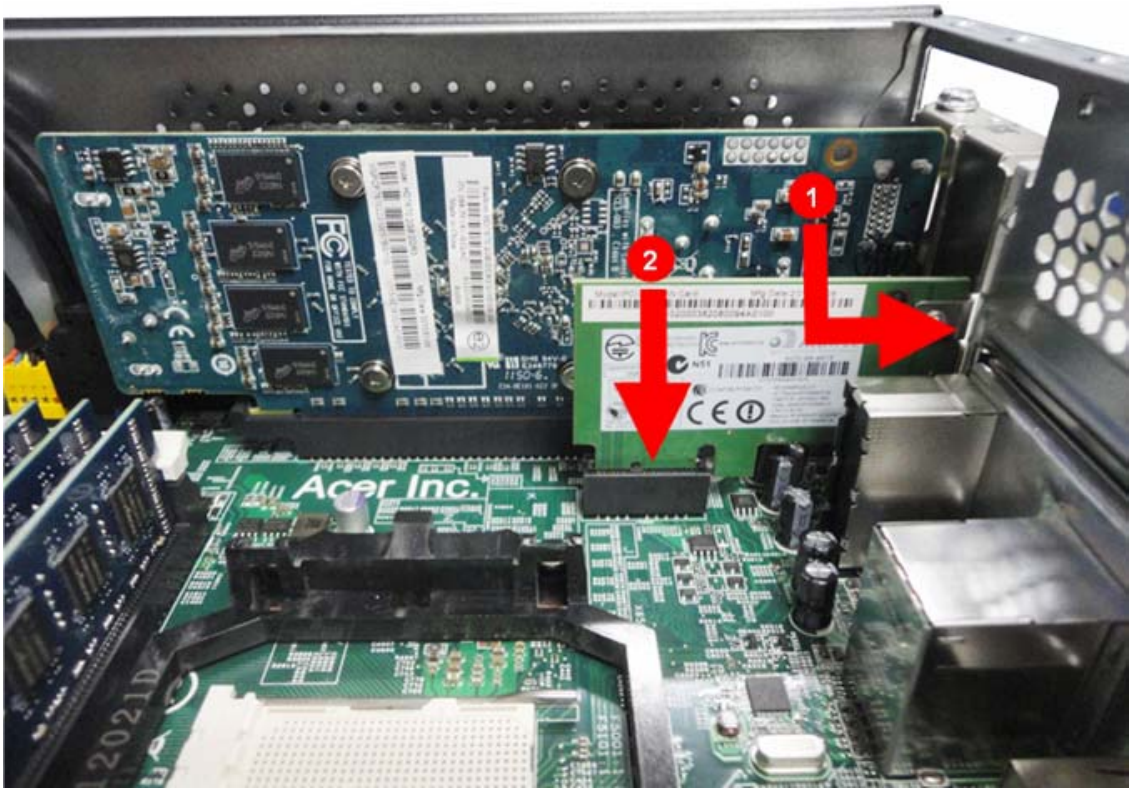
1. Position the expansion board over the PCIE16X 1 slot and move it slightly to the right (1), making sure the card guide is aligned with the slot guide on the chassis. Insert the expansion card properly connector into PCIE16X 1 slot (2).



2. Secure the expansion board bracket opposite the PCIE16X 1 slot using one screw.

Reinstalling the Wireless Lan Card

1. Position the expansion board over the PCIE1X 1 slot and move it slightly to the right (1), making sure the card guide is aligned with the slot guide on the chassis. Insert the expansion card connector properly into PCIE1X 1 slot (2).



2. Secure the expansion board bracket opposite the PCIE1X 1 slot using one screw.

Reinstalling the Optical Drive and the Hard Disk Drive

1. Slide the hard disk drive into the drive bay.

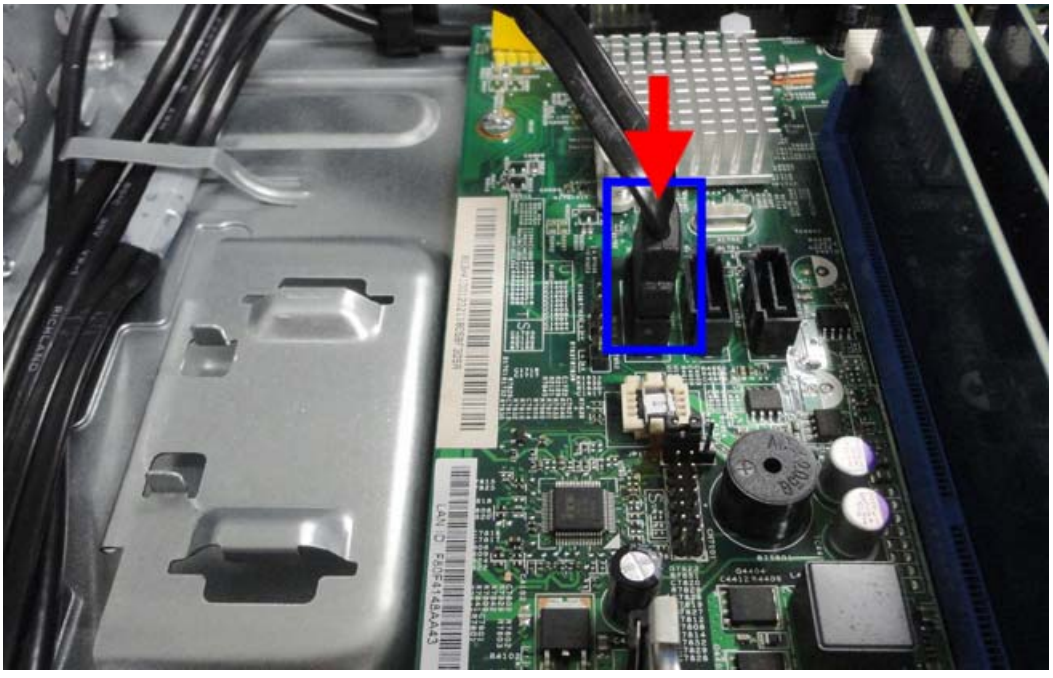
2. Secure the hard disk drive to the HDD-ODD bracket using four screws.

3. Slide the optical drive into the drive bay.

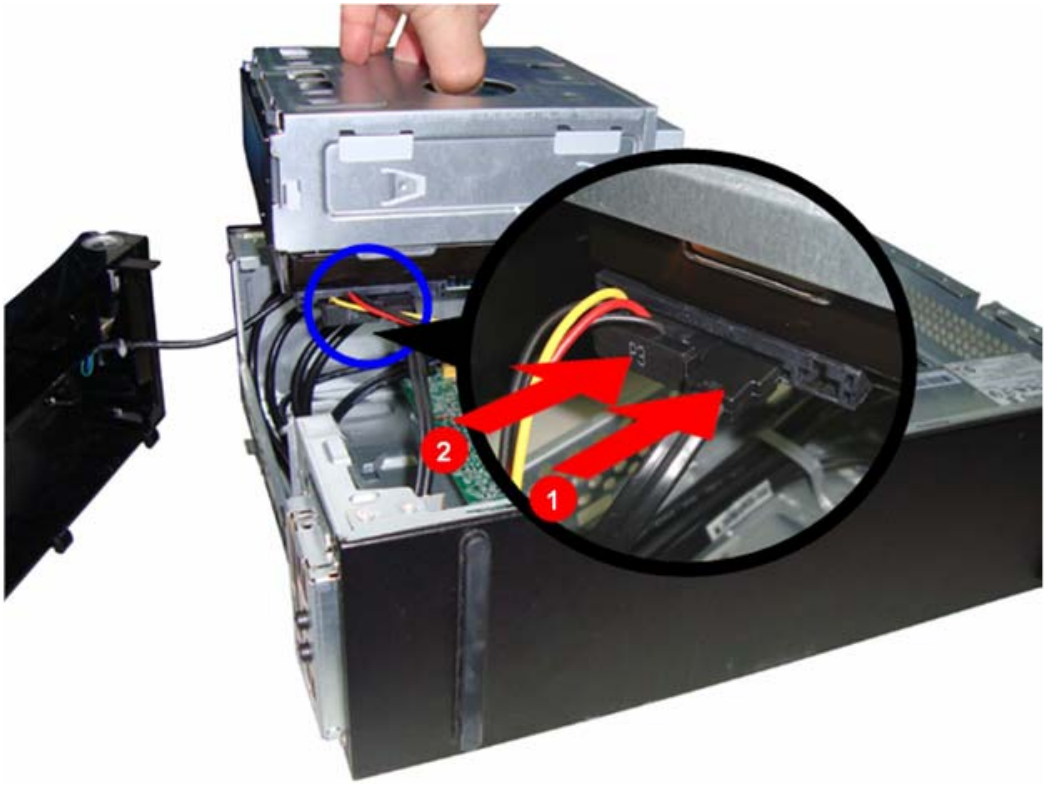
4. Secure the optical drive to the HDD-ODD bracket using two screws.

5. Let HDD SATA data cable pass through the two metal clip.

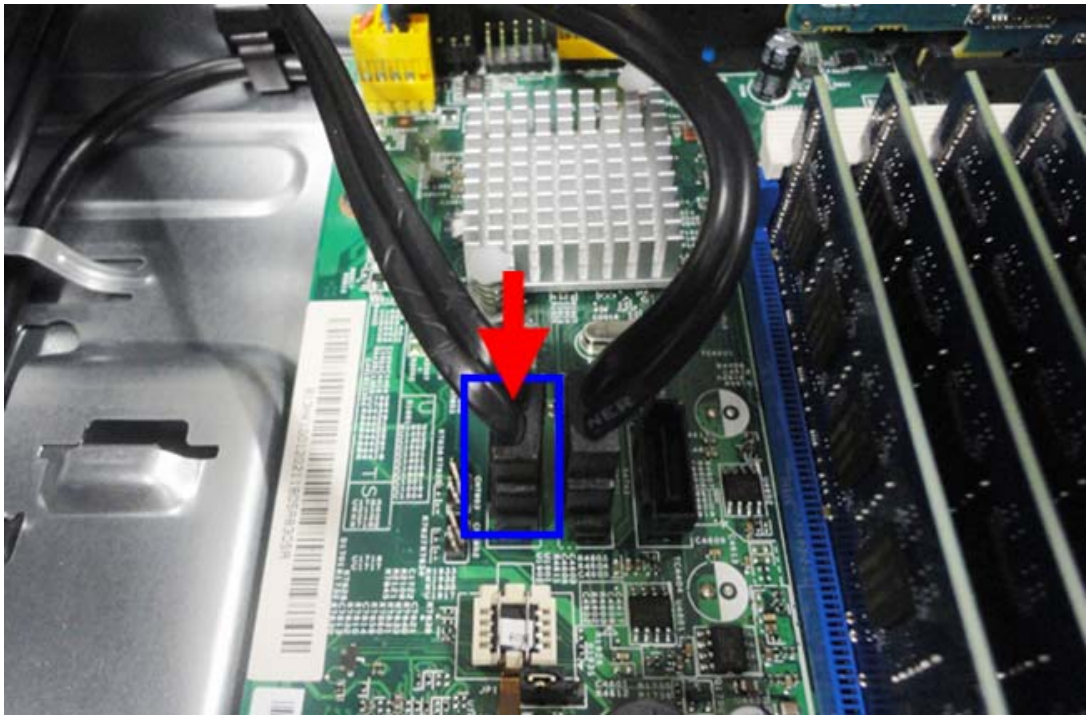
6. Connect one end of the SATA cable to the SATA connector on the mainboard.



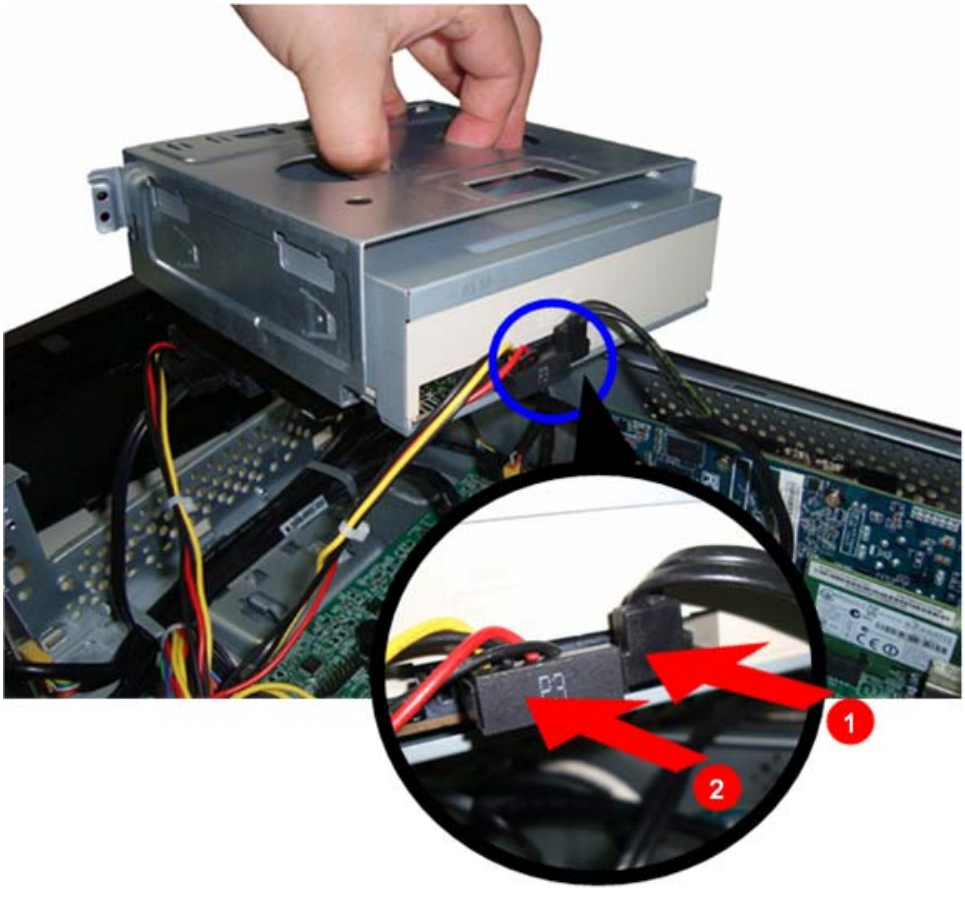
7. Connect the SATA(1) and power(2) cables to their connectors on the rear of the hard disk drive.



8. Connect one end of the SATA cable to the SATA connector on the mainboard.

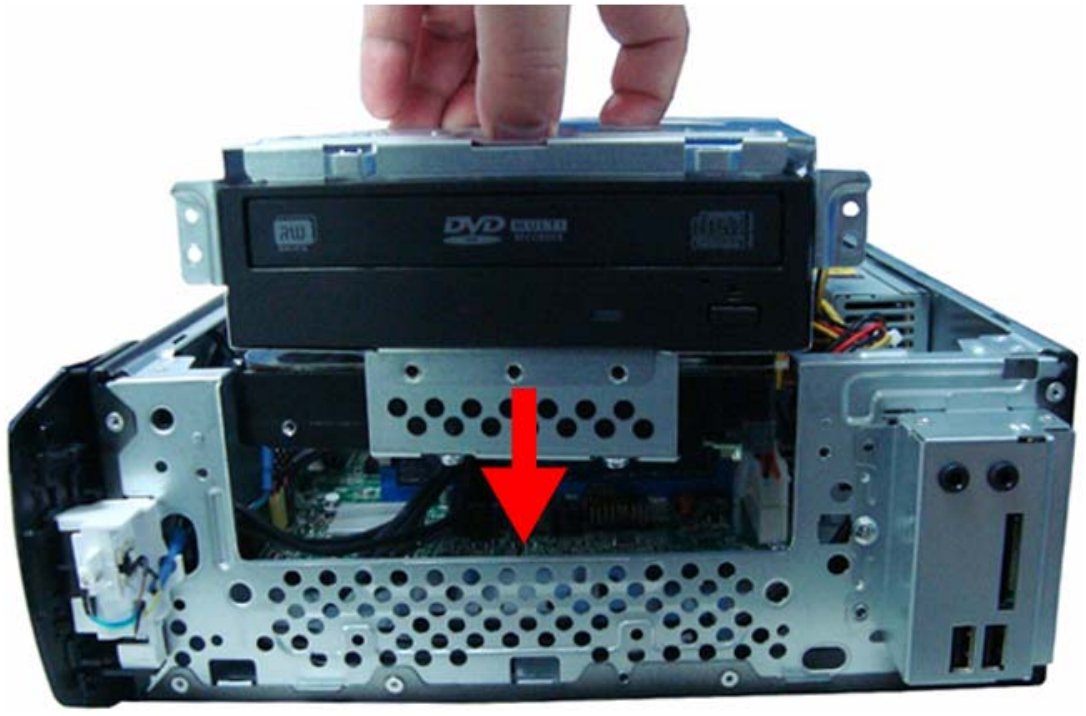


9. Connect the SATA(1) and power(2) cables to their connectors on the rear of the optical drive.



Reinstalling the HDD-ODD Bracket

1. Install the HDD-ODD bracket into the chassis.



2. Secure the HDD-ODD bracket to the chassis using two screws.

Reinstalling the Processor

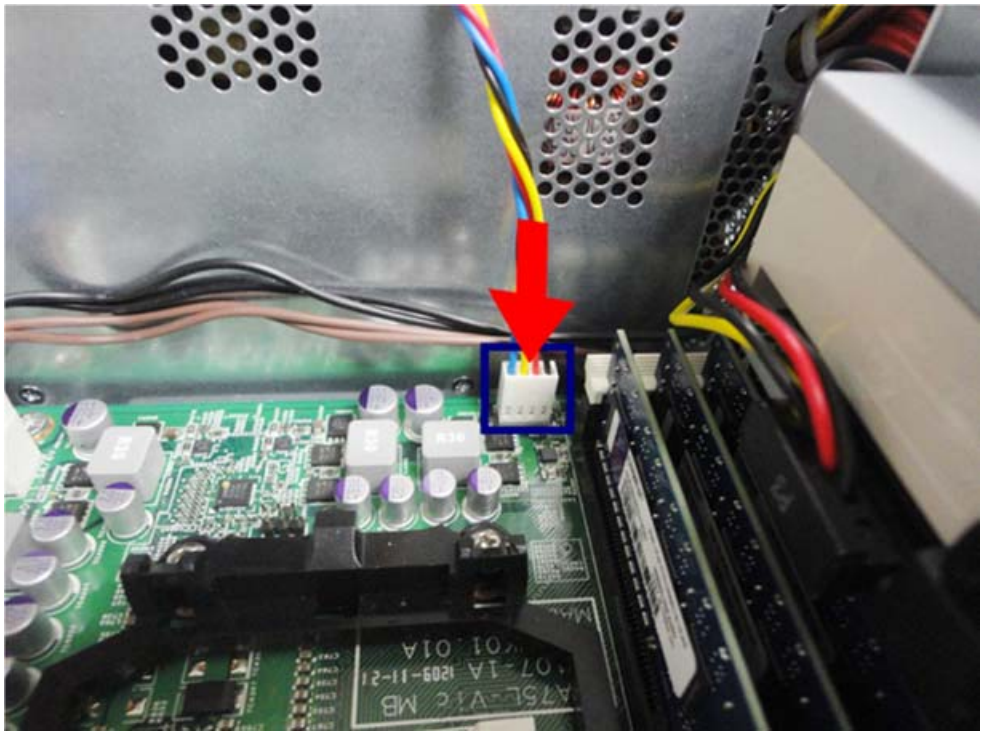
IMPORTANT: If you are going to install a new processor, note the arrow on the corner to make sure the processor is properly oriented over the socket.

1. Release the load lever, lift the load lever to the fully open, gently put the processor into the socket.

2. Close the load lever to its latch.

Reinstalling the Heat Sink Fan Assembly

1. Connect the cooler cable to the main board connector.



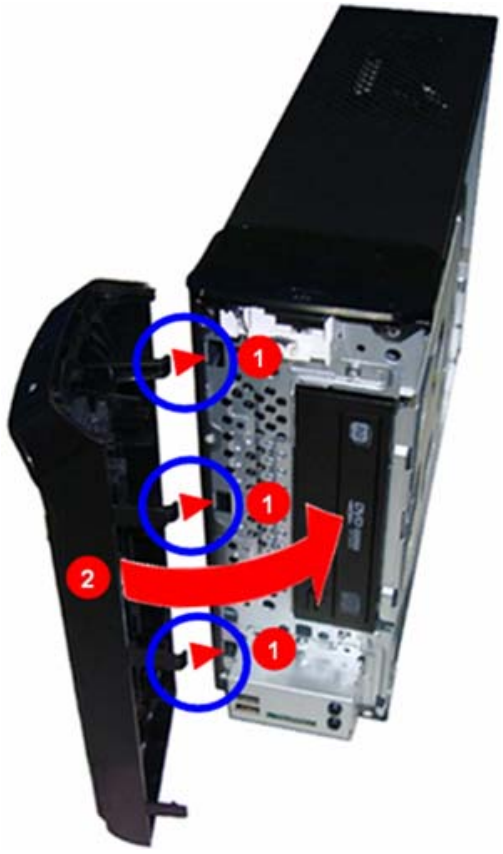
2. Position the heat sink fan assembly on top of the processor, making sure the screws are aligned with the screw holes on the main board.

3. Connect tache of heat sink to the retention frame.

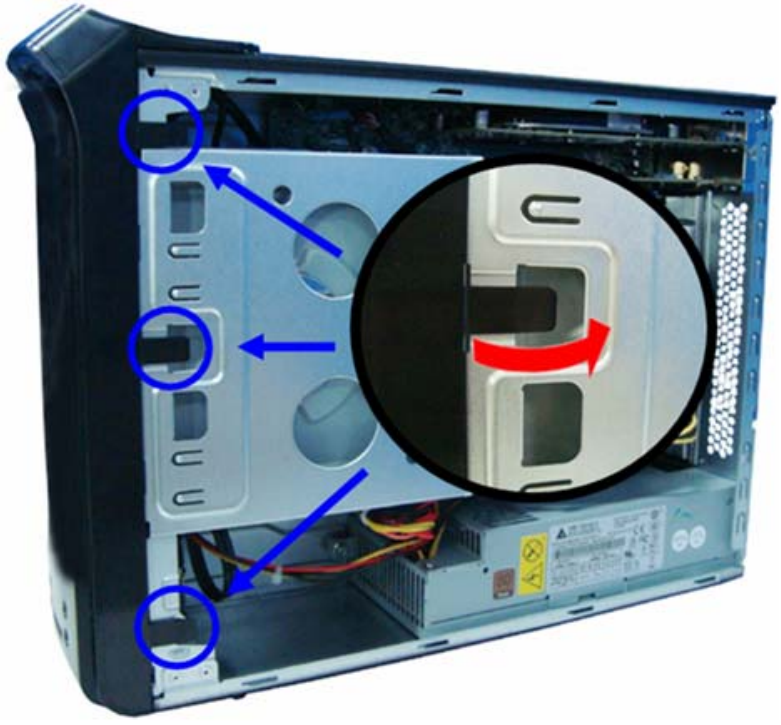
4. Secure the hook of heat sink as shown below.

Reinstalling the Front Bezel

1. Insert the tabs on the front bezel into the notches on the left side of the chassis and attach the front bezel in the direction indicated.



2. Make sure the front bezel retention tabs are securedly fastened to the chassis interior.



Reinstalling the Side Panel

1. Push the side panel toward the front of the chassis until it is firmly closed.

2. Secure the side panel to the rear edge of the chassis using two screws.

System Troubleshooting

This chapter provides instructions on how to troubleshoot system hardware problems.

Hardware Diagnostic Procedure

IMPORTANT: The diagnostic tests described in this chapter are only intended to test Acer products. Non-Acerproducts, prototype cards, or modified options can give false errors and invalid systemresponses.

1. Obtain the failing symptoms in as much detail as possible.
2. Verify the symptoms by attempting to recreate the failure by running the diagnostic tests or repeating thesame operation.
3. Refer to “Power System check” on page 80 and “Beep Codes” on page 81 to determine which corrective action to perform.

System Check Procedures

Power System Check

If the system will power on, skip this section. Refer to System External Inspection.

If the system will not power on, do the following:

- Check if the power cable is properly connected to the system and AC source.
- Check if the voltage selector switchis set to the correct voltage setting.

System External Inspection

1. Inspect the LED indicators on the front panel, which can indicate the malfunction.
2. Make sure that air flow is not blocked.
3. Make sure nothing in the system is making contact that could short out power.
4. If the problem is not evident, continue with System Internal Inspection.

System Internal Inspection

1. Turn off the system and all the peripherals connected to it.
2. Unplug the power cord from the power outlets.
3. Unplug the power cord from the system.
4. Unplug all peripheral cables from the system.
5. Place the system unit on a flat, stable surface.
6. Remove the system covers.For instructions on removing system covers, refer to “System Disassembly” on page 27.
7. Verify that components are properly seated.
8. Verify that all cable connectors inside the system are firmly and correctly attached to their appropriate connectors.
9. Verify that all components are Acer-qualified and supported.
10. Replace the system covers.
11. Power on the system.
12. If the problem with the system is not evident, you can try viewing the POST messages and BIOS event logs during the system startup.

Beep Codes

Beep codes are used by the BIOS to indicate a serious or fatal error to the end user. Beep codes are used when an error occurs before the system video has been initialized. Beep codes will be generated by the system board speaker, commonly referred to as the PC speaker.

AMIBIOS displays the checkpoints in the bottom right corner of the screen during POST. This display method is limited, since it only displays checkpoints that occur after the video card has been activated.

Not all computers using AMIBIOS enable this feature. In most cases, a checkpoint card is the best tool for viewing AMIBIOS checkpoints.

Beep Symptom	Cause and Description
One short beep	System is ready. System is OK.
Continuous one long beep	Memory not installed or memory error.
One long beep and two short beeps then repeat.	VGA not installed or VGA error. Graphics card error/not installed, graphics card memory error or graphics card BIOS checksum error.
One long beep then two short beep	BIOS damaged. BIOS is damaged, BIOS POST jumps to Boot Block to execute the default procedures.
Two short beeps	CMOS damaged. CMOS checksum error or CMOS battery loss occurs.

Checkpoints

A checkpoint is either a byte or word value output to I/O port 80h.The BIOS outputs checkpoints throughout bootblock and Power-On Self Test (POST) to indicate the task the system is currently executing. Checkpoint sare very useful in aiding software developers or technicians in debugging problems that occur during the pre-boot process.

Viewing BIOS checkpoints

Viewing all checkpoints generated by the BIOS requires acheckpoint card, also referred to as a POST card or POST diagnostic card. These are ISA or PCI add-in cards that show the value of I/O port 80h on a LED display. Checkpoints may appear on the bottom right corner of the screen during POST. This display method islimited, since it only displays checkpoints thatoccur after the video card has been activated.

Bootblock Initialization Code Checkpoints

The Bootblock initialization code sets up the chipset,memory, and other components before system memory is available. The following table describes the type of checkpoints that may occur during the bootblock initialization portion of the BIOS.

NOTE: Please note that checkpoints may differ between different platforms based on system configuration.Checkpoints may change due to vendor requirements,system chipset or option ROMs from add-in PCI devices.

Checkpoint	Description
Before D0	If boot block debugger is enabled, CPU cache-as-RAM functionality is enabled at this point. Stack will be enabled from this point.
D0	Early Boot Strap Processor (BSP) initialization like microcode update, frequency and other CPU critical initialization. Early chipset initialization is done.
D1	Early super I/O initialization is done including RTC and keyboard controller. Serial port is enabled at this point if needed for debugging. NMI is disabled. Perform keyboard controller BAT test. Save power-on CPUID value in scratch CMOS. Go to flat mode with 4GB limit and GA20 enabled.
D2	Verify the boot block checksum. System will hang here if checksum is bad.
D3	Disable CACHE before memory detection. Execute full memory sizing module. If memory sizing module not executed, start memory refresh and do memory sizing in Boot block code. Do additional chipset initialization. Re-enable CACHE. Verify that flat mode is enabled.
D4	Test base 512KB memory. Adjust policies and cache first 8MB. Set stack.
D5	Bootblock code is copied from ROM to lower system memory and control is given to it. BIOS now executes out of RAM. Copies compressed boot block code to memory in right segments. Copies BIOS from ROM to RAM for faster access. Performs main BIOS checksum and updates recovery status accordingly.
D6	Both key sequence and OEM specific method is checked to determine if BIOSrecovery is forced. Main BIOS checksum is tested. If BIOS recovery is necessary,control flows to checkpoint E0. See Bootblock Recovery Code Checkpoints sectionfor more information.
D7	Restore CPUID value back into register. The Bootblock-Runtime interface module is moved to system memory and control is given to it. Determine whether to execute serial flash.
D8	The Runtime module is uncompressed into memory. CPUID information is stored in memory.
D9	Store the Uncompressed pointer for future use in PMM. Copying Main BIOS into memory. Leaves all RAM below 1MB Read-Write including E000 and F000 shadow areas but closing SMRAM.

Checkpoint	Description
DA	Restore CPUID value back into register. Give control to BIOS POST (ExecutePOSTKernel). See POST Code Checkpoints section of document for more information.
DC	System is waking from ACPI S3 state.
E1-E8 EC-EE	OEM memory detection/configuration error. This range is reserved for chipset vendors & system manufacturers. The error associated with this value may be different from one platform to the next.

Bootblock Recovery Code Checkpoints

The Bootblock recovery code gets control when the BIOS determines that a BIOS recovery needs to occur because the user has forced the update or the BIOS checksum is corrupt. The following table describes the type of checkpoints that may occur during the Bootblock recovery portion of the BIOS.

NOTE: Checkpoints may differ between different platforms based on system configuration. Checkpoints maychange due to vendor requirements, system chipset or option ROMs from add-in PCI devices.

Checkpoint	Description
E0	Initialize the floppy controller in the super I/O. Some interrupt vectors are initialized. DMA controller is initialized. 8259 interrupt controller is initialized. L1 cache is enabled.
E9	Set up floppy controller and data. Attempt to read from floppy.
EA	Enable ATAPI hardware. Attempt to read from ARMD and ATAPI CDROM.
EB	Disable ATAPI hardware. Jump back to checkpoint E9.
EF	Read error occurred on media. Jump back to checkpoint EB.
F0	Search for pre-defined recovery file name in root directory.
F1	Recovery file not found.
F2	Start reading FAT table and analyze FAT to find the clusters occupied by the recovery file.
F3	Start reading the recovery file cluster by cluster.
F5	Disable L1 cache.
FA	Check the validity of the recovery file configuration to the current configuration of the flash part.
FB	Make flash write enabled through chipset and OEM specific method. Detect proper flash part. Verify that the found flash part size equals the recovery file size.
F4	The recovery file size does not equal the found flash part size.
FC	Erase the flash part
FD	Program the flash part.
FF	The flash has been updated successfully. Make flash write disabled. Disable ATAPI hardware. Restore CPUID value back into register. Give control to F000 ROM at F000:FFF0h.

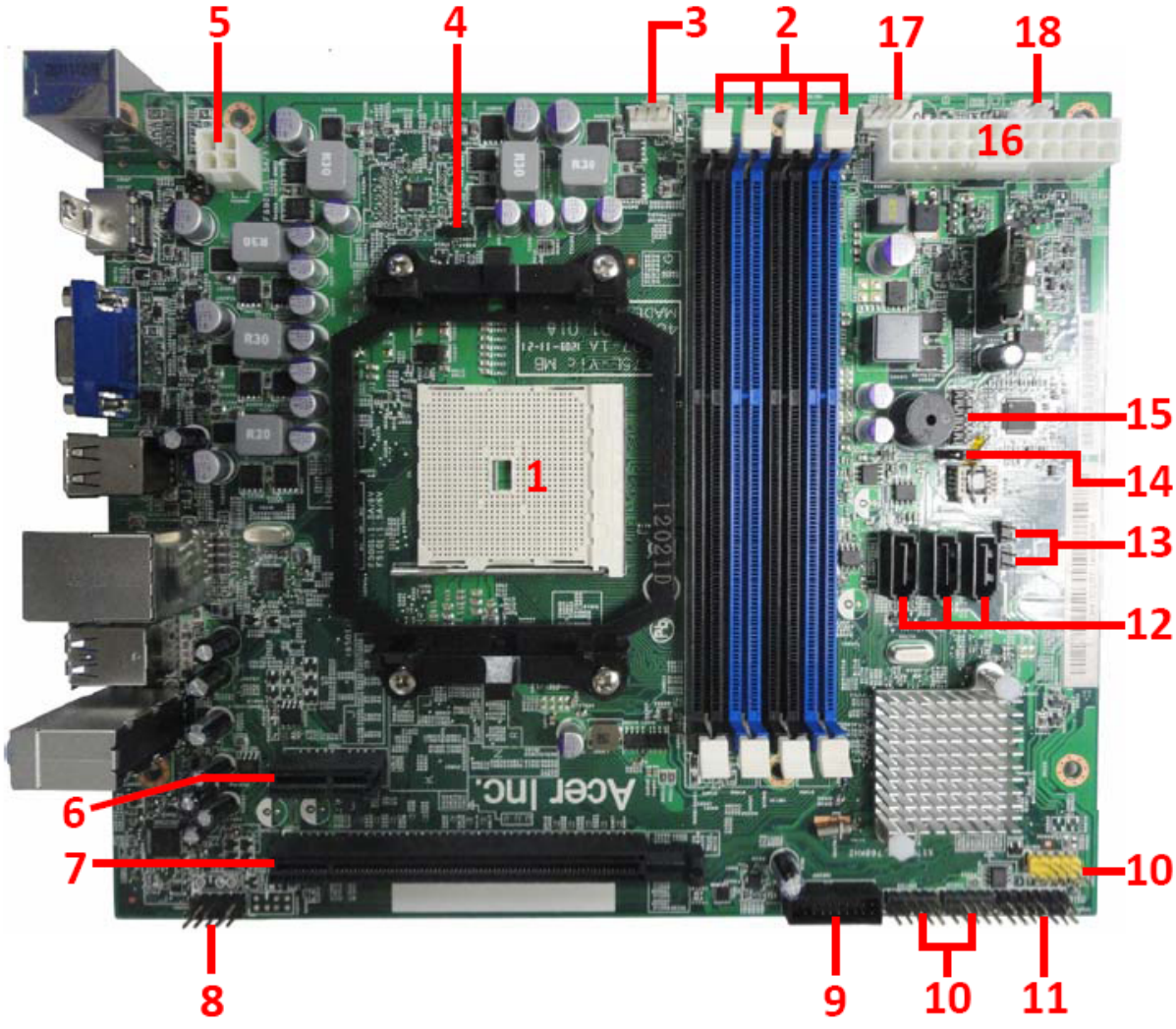
BIOS Recovery

AMIBIOS supports a "recovery flash" mode, which can be used to flash update a BIOS from the boot block. This is used to update a BIOS image without the need to boot to an operating system. The following is the process that user should follow to flash BIOS ROM.

1. Put the AMIBoot.ROM to a bootable USB flash drive(Disk on Key, DOK).
2. Install the DOK to the system.
3. Press power button to boot the system and then press Ctrl + Home.
4. The BIOS recovery function will be executed.
5. After BIOS is updated completely, the system will auto reboot.
6. Please enter the setup menu to load default after system reboot.

Jumper and Connector Information

M/B Placement



No	Label	Description	No	Label	Description
1	CPU Socket	AMD FM2	2	DIMM1~4	240-pin DDR3 SDRAM slots
3	CPU_FAN	CPU cooling fan connector	4	PWMIC	Firmware download header
5	ATX_12V	Auxiliary 4-pin power connector	6	PCIEX1	PCI Express X1 slot
7	PCIEX16	PCI Express X16 slot	8	AUDIO	Front panel audio header

No	Label	Description	No	Label	Description
9	USB3.0	Front panel USB3.0 header	10	USB2.0	Front panel USB2.0 header
11	PANEL	Front panel switch/ LED header	12	SATA1~3	Serial ATA connectors
13	GPIO	GPIO 1x2 pin	14	CLR_CMOS	Clear COMS jumper
15	Debug Port	Debug card	16	ATX_POWER	Standard 24-pin ATX power connector
17	System FAN	System cooling fan connector	18	IR Reciever	Infrared header

Jumper Setting

This section explains how to set the jumper for correct configuration of the main board.

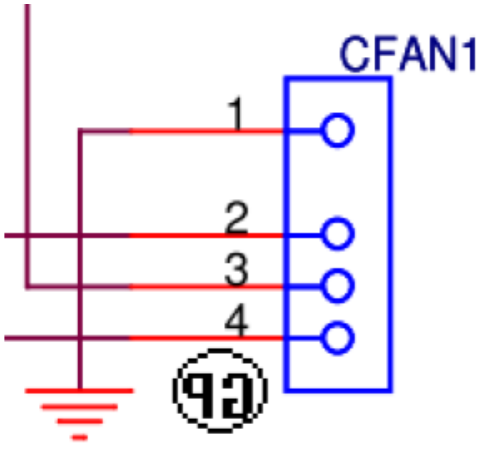
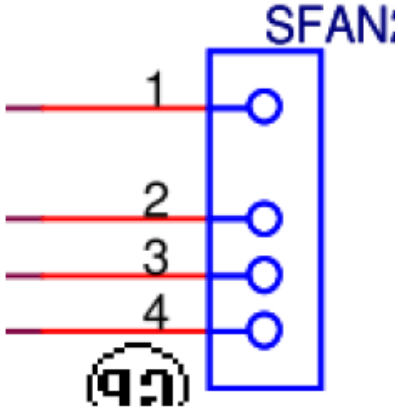
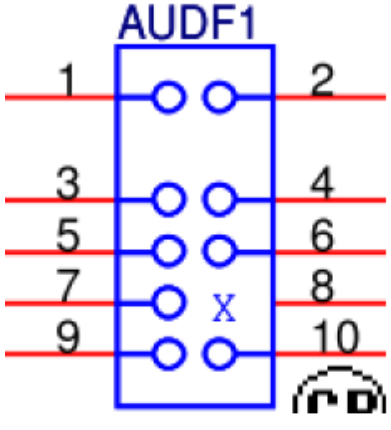
Jumpers with more than one pin are numbered. When setting a jumper, ensure that the jumper caps are placed on the correct pins.

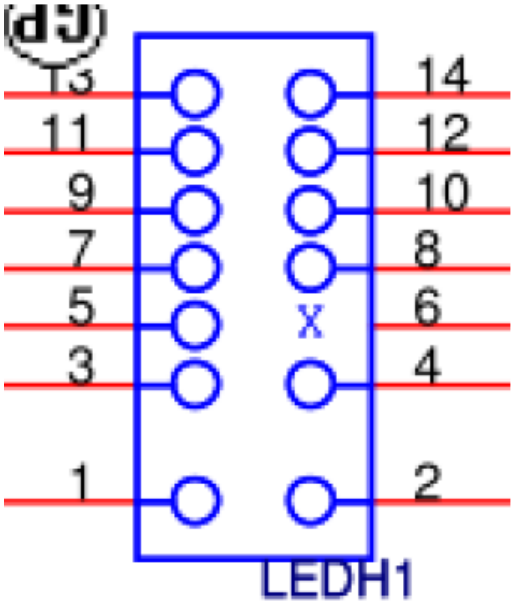
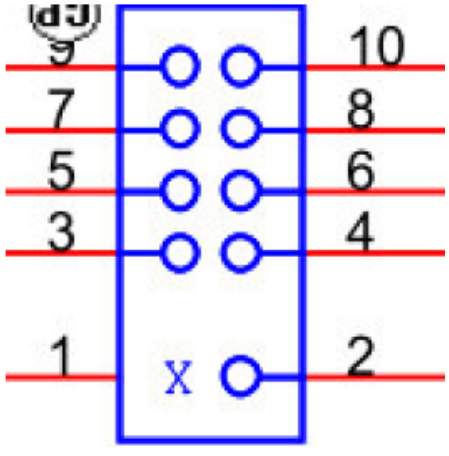
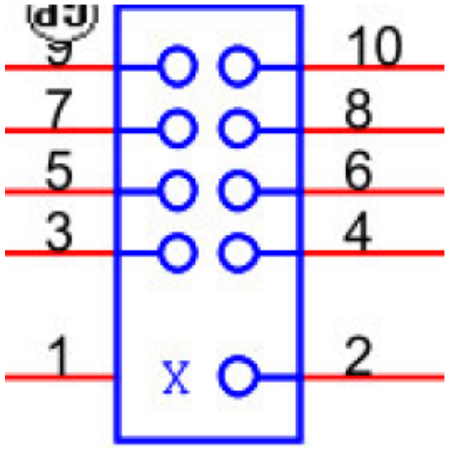
The following illustration shows the location of CLR_CMOS.

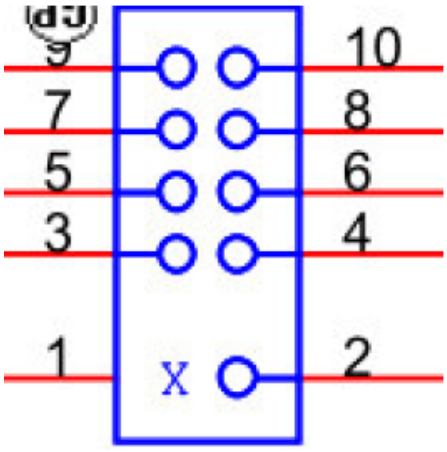
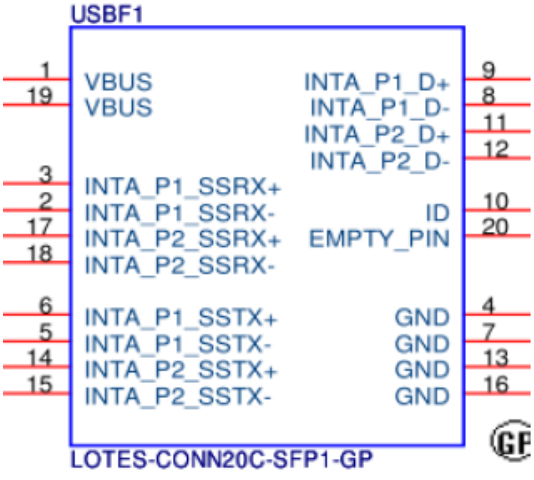
The following table shows the settings of the 3-pin CLR_CMOS jumper. Place the jumper cap on pins 1 and 2 to close or short the jumper. Place the jumper cap on pins 2 and 3 to open or clear CMOS.

Jumper	Type	Description	Setting (default)	
CMOS1	3-pin	Clear CMOS	1-2: Close (default) 2-3: Open Before clearing the CMOS, make sure to turn off the system.	 CLR_CMOS

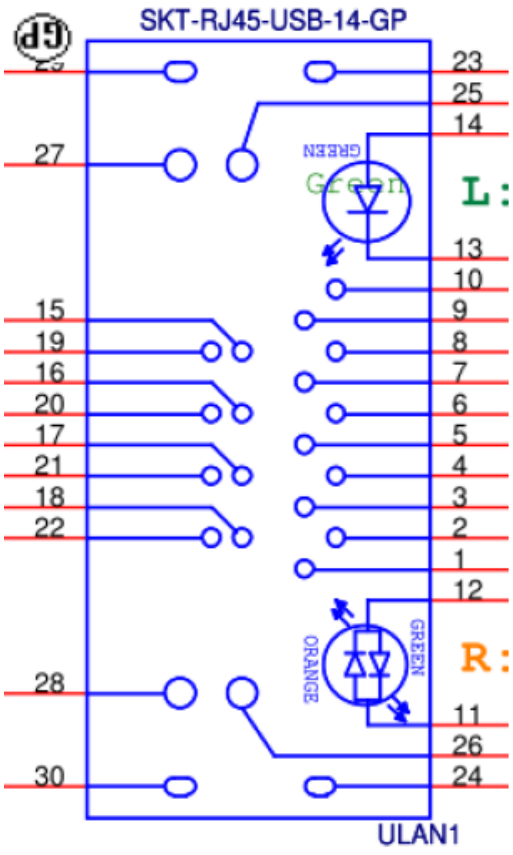
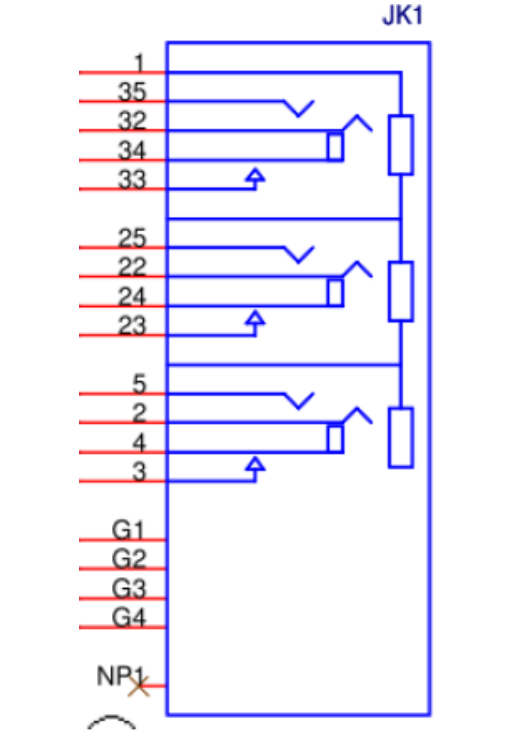
Internal Header Pin Definition

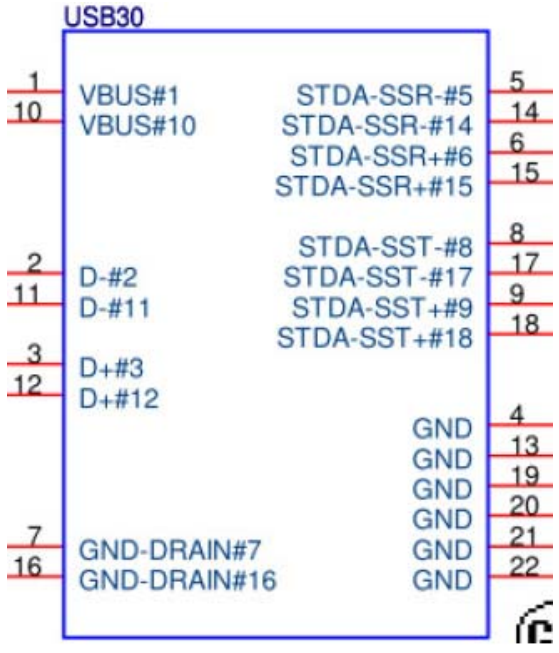
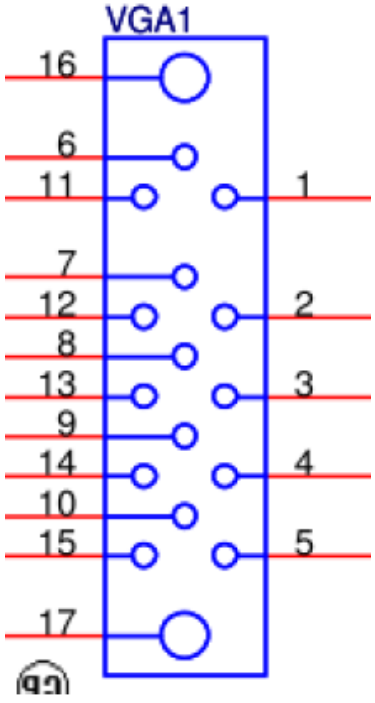
Header Name	Function	Definition
	CPU Fan Header	1:GND 2:+12V 3:SENSE 4:PWM CONTROL
	System Fan Header	1:GND 2:+12V 3:SENSE 4:PWM CONTROL
	Front Panel Audio Header	1:MIC_L 2:GND 3:MIC_R 4:PWR 5:FRONT_R 6:MIC_JD 7:FRONT_SENCE 8:NC 9:FRONT_L 10:FRONT_JD

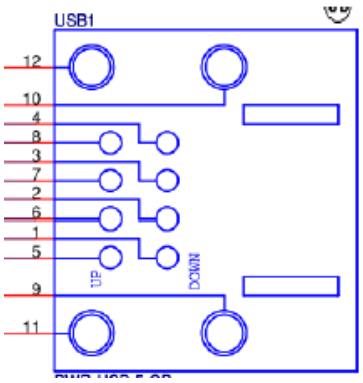
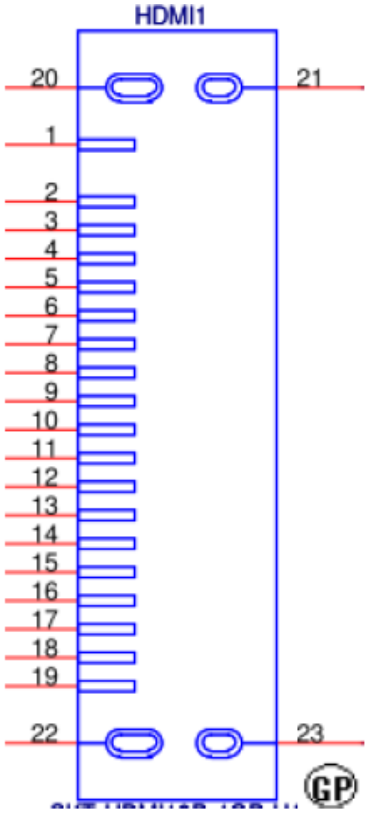
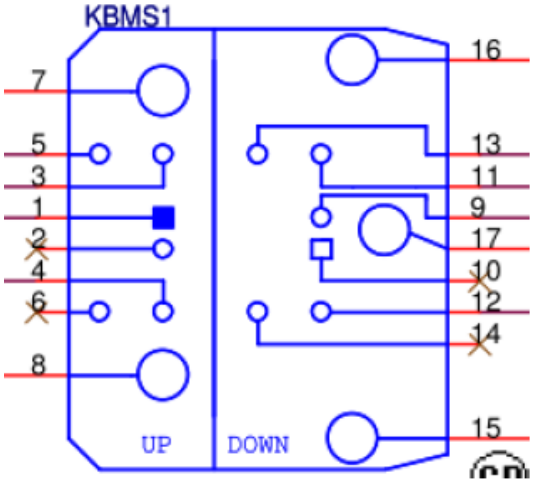
Header Name	Function	Definition
	Front panel Header	1:NC 2:GND 3:SB5V 4:LAN LED 5:NC 6:NC 7:PWR RST CONTROL 8:GND 9:GND 10:PWR BTN CONTROL 11:SATA LED 12:GND 13:VCC 14:VCC5 for HDD LED
	Front USB Header	1:NC 2:GND 3:GND 4:GND 5:USB0_XP 6:USB1_XP 7:USB0_XN 8:USB1_XN 9:USBVCC_0 10:USBVCC_0
	Front USB Header	1:NC 2:GND 3:GND 4:GND 5:USB0_XP 6:USB1_XP 7:USB0_XN 8:USB1_XN 9:USBVCC_1 10:USBVCC_1

Header Name	Function	Definition
	Front USB Header	1:NC 2:GND 3:GND 4:GND 5:USB0_XP 6:USB1_XP 7:USB0_XN 8:USB1_XN 9:USBVCC_2 10:USBVCC_2
	Front USB3.0 Header	1:USB PWR 2:RXN1 3:RXP1 4:GND 5:TXN1 6:TXP1 7:GND 8:USB_N1 9:USB_P1 10:OC 11:USB_P2 12:USB_N2 13:GND 14:TXP2 15:TXN2 16:GND 17:RXP2 18:RXN2 19:USB PWR 20:NC

Connector Pin Definition

Header Name	Function	Definition
	RJ45 and 2 PORT USB	1:LAN PWR 2:MDI0+ 3:MDI0- 4:MDI1+ 5:MDI1- 6:MDI2+ 7:MDI2- 8:MDI3+ 9:MDI3- 10:GND 11:LAN_ACT_LED- 12:LAN_ACT_LED+ 13:LINK_100_LEDJ 14:LINK_1000_LEDJ 15:USB PWR 16:USB_N1 17:USB_P1 18:GND 19:USB PWR 20:USB_N0 21:USB_P0 22~30:GND
	ADUIO JACK	1:GND 2:MIC_R 3:GND 4:MIC_JD 5:MIC_L 22:LINE_IN_R 23:GND 24:LINE_IN_JD 25:LINE_IN_L 32:LINE_OUT_R 33:GND 34:LINE_OUT_JD 35:LINE_OUT_L G1~4:GND NP1:NC

	USB3.0 CONN	1:USB PWR 2:USB_N0 3:USB_P0 4:GND 5:RXN1 6:RXP1 7:GND 8:TXN1 9:TXP1- 10:USB PWR 11:USB_N1 12:USB_P1 13:GND 14:RXN2 15:RXP2 16:GND 17:TXN2 18:TXP2 19~22:GND
	D-SUB	1:RED 2:GREEN 3:BLUE 4:NC 5,6,7,8:GND 9:+5V_VGA 10:GND 11:NC 12:DDC_DATA 13:HSYNC 14:VSYNC 15:DDC_CLK 16:GND 17:GND

	USB CONN	1:USB PWR 2:USB_N0 3:USB_P0 4:GND 5:USB PWR 6:USB_N1 7:USB_P1 8~12:GND
	HDMI	1:HDMI_P0 2:GND 3:HDMI_N0 4:HDMI_P1 5:GND 6:HDMI_N1 7:HDMI_P2 8:GND 9:HDMI_N2 10:HDMI_CLK_P 11:GND 12:HDMI_CLK_N 13:NC 14:NC 15:CTRL_CLK 16:CTRL_DATA 17:GND 18:+5V_PWR 19:DDSP_HPD 20,21,22,23:GND
	PS2 KB/MS	1:MS_DATA 2:NC 3:GND 4:KBMS_PWR 5:MS_CLK 6:NC 7/8:GND 9:KB_DATA 10:NC 11:GND 12:KBMS_PWR 13:KB _CLK 14:NC 15,16,17:GND

FRU (Field Replaceable Unit) List

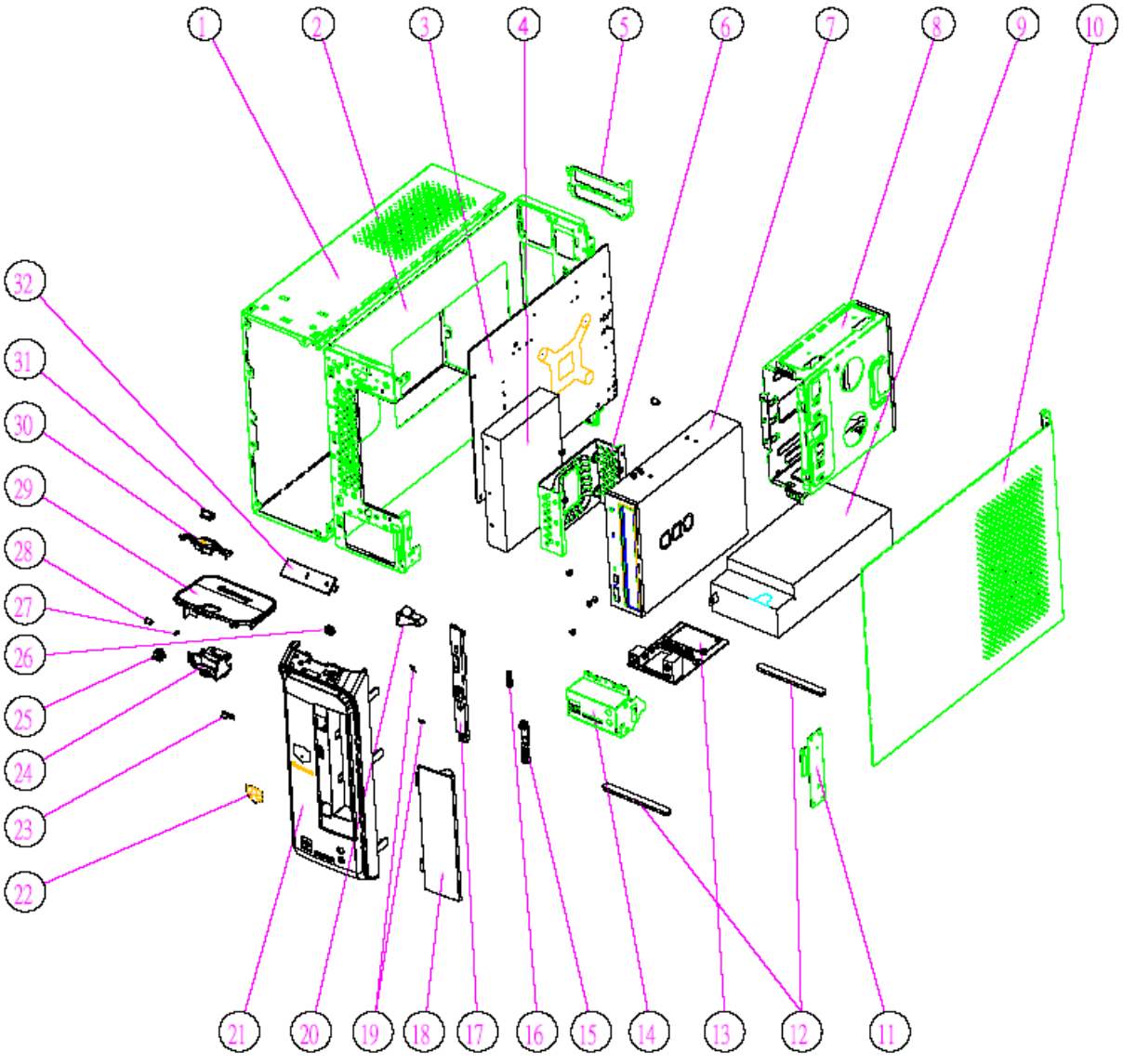
This chapter offers the FRU (Field Replaceable Unit) list in global configuration of the SX2380 desktop computer. Refer to this chapter whenever ordering the parts to repair or for RMA (Return Merchandise Authorization).

NOTES:

- When ordering FRU parts, check the most up-to-date information available on your regional web or channel. For whatever reasons a part number is changed, it will NOT be noted on the printed Service Guide. For Acer authorized service providers, your Acer office may have a different part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for service.
- To scrap or to return the defective parts, follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.
- This document will be updated as more information about the FRU list becomes available.

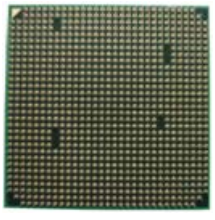
SX2380 Exploded Diagram

NOTE: This section will be updated when more information becomes available.



ITEM	NAME	Q'TY	ITEM	NAME	Q'TY
1	CHASSIS-BOTTOM-P5-8_5L	1	17	P5-8_5L-ODD-BUTTON-POLE	1
2	U-CHASSIS-HX097-P5-8_5L	1	18	P5-8_5L-ODD-DOOR	1
3	MB	1	19	ODD-DOOR-SPRING	2
4	HDD	1	20	P5-8_5L-ODD-BUTTON-LINK	1
5	PCI-SHIELDING	1	21	GW-8_5L-FRONT-BEZEL	1
6	BRACKET-HDD-HX097	1	22	GW-LOGO	1
7	ODD	1	23	P5-8_5L-HDD-LENS	1
8	BRACKET-ODD-HX097	1	24	SWITCH-LED-HOLDER	1
9	POWER SUPPLY	1	25	SWITCH	1
10	SIDE-PLATE-P5-8_5L	1	26	ODD-BUTTON-SPRING	1
11	CHASSIS-ODD-BKT-LINK-HX097	1	27	Φ3 LED	1
12	RUBBER-FOOT	2	28	Φ5 LED	1
13	FRONT I/O	1	29	GW-8_5L-TOP-COVER	1
14	BRACKET-USB-PLATE-FOR-P5-8_5L	1	30	P5-8_5L-POWER-BUTTON	1
15	P5-8_5L-ODD-BUTTON-F-MATCH	1	31	P5-8_5L-POWER-LENS	1
16	ODD-POLE-SPRING	1	32	P5-8_5L-ODD-BUTTON	1

SX2380 FRU List

Category	Description	Part Number	Exploded Diagram Item
MB Kit			
	MB kit gVic AMD A75 Realtek 8111F Acer Logo DTX W/O 1394 LF w/ USB3.0	DB.GDE11.001	3
	MB Kit SX2380 AMD A75 Realtek 8111FA Y W/O 1394 V1.0 LF DTX Win8	DB.GDS11.001	
Chassis			
	Hon Hai Chassis xSFF HX097K w/i GTW logo, w/i front USB2.0 port x2, w/o front WiFi module support for GTW bezel GX170	DC.13111.007	N/A
	Hon Hai Chassis xSFF HX097L w/i GTW logo, w/i front USB2.0 port x2, w/i front WiFi module support for GTW bezel GX171	DC.13111.008	
Bezel			
	Hon Hai GTW GX170 USB2.0 port x2 bezel, w/i 5-in-1 combo MCR, w/o front WiFi module support for HX097K	DC.11911.00A	N/A
	Hon Hai GTW GX171 USB2.0 port x2 bezel, w/i 5-in-1 combo MCR, w/i front WiFi module support for HX097L	DC.11911.00B	
Power Supply			
	Non-PFC 220W (8.5L) EuP	PY.2200B.009	9
	Non-PFC 220W (8.5L) EuP	PY.22009.009	
	FR 220W (8.5L) EuP 82+	PY.2200B.011	
	FR 220W (8.5L) EuP 82+	PY.22009.011	
	Non-PFC 220W (8.5L) EuP	PY.2200F.004	
	FR 220W (8.5L) EuP 82+	PY.2200F.006	
CPU			
	CPU AMD A8 5500 FM2 3.2G 4M 65W A-1 Quad Core	KC.AA802.550	N/A
	CPU AMD A10 5700 FM2 3.4G 4M 65W A-1 Quad Core	KC.A1002.570	
	CPU AMD A6 5400K FM2 3.6G 1M 65W A-1 Quad Core	KC.KA602.540	
	CPU AMD A6 5300 FM2 3.6G 1M 65W A-1 Dual Core	KC.AA402.530	
Memory			

Category	Description	Part Number	Exploded Diagram Item
	GU502203EP0201 LF 128*8 0.065um (1G bit)	KN.1GB0H.015	N/A
	ACR128X64D3U1333C9 LF 128*8 0.07um (1G bit)	KN.1GB07.002	
	RMR1810EF48E7W-1333 (1G bit)	KN.1GB0R.002	
	"NT1GC64BH4B0PF-CG (2G bit, 128x16)"	KN.1GB03.035	
	HU524303EP0200 (2G bit)	KN.2GB0H.012	
	NT2GC64B88G0NF-CG V79D (2G bit)	KN.2GB03.026	
	RMR1810EC58E8F-1333 (1G bit)	KN.2GB0R.002	
	AD63I1B0823EV (2G bit)	KN.2GB0C.009	
	ACR256X64D3U13C9G (2G bit)	KN.2GB07.007	
	NT4GC64B8HG0NF-CG (2G bit)	KN.4GB03.010	
	AD63I1C1624EV (2G bit)	KN.4GB0C.002	
	HU564403EP0200 (2G bit)	KN.4GB0H.001	
	ACR512X64D3U13C9G (2G bit)	KN.4GB07.002	
	MT16JTF51264AZ-1G4D1 4GB	KN.4GB04.002	
HDD			
	HDD SEAGATE 3.5" 7200rpm 500GB ST3500413AS(Pharaoh 6G) SATA III 16MB LF F/ W:JC45	KH.50001.022	4
	HDD SEAGATE 3.5" 7200rpm 1000GB ST31000524AS (Pharaoh 6G) SATA III 32MB LF F/W:JC45	KH.01K01.016	
	HDD WD 3.5" 7200rpm 500GB WD5000AAKX-221CA1 XL500-1D SATA III 16MB LF F/ W:17.01H17	KH.50008.025	
	HDD WD 3.5" 5400rpm 1000GB WD10EARX-22N0YB0 GP667 SATA III 64MB LF F/ W:51.0AB51	KH.01K08.020	
ODD			
	ODD HLDS Super-Multi DRIVE HH 16X GH80N LF+HF Black Bezel SATA (Win7)	KO.0160D.002	7
	ODD PLDS Super-Multi DRIVE HH DL 16X DH-16ACSH LF Black Bezel (HF+Win7) SATA	KU.0160F.013	
	ODD PIONEER Super-Multi DRIVE HH DL 16X DVR-219RS LF Black Bezel SATA (Win7+HF)	KU.01605.007	
VGA			

Category	Description	Part Number	Exploded Diagram Item
	288-5E181-X02AC HD7670 2GB DDR3 128bit DVI-I + HDMI LP	VG.PCP76.702	N/A
	288-5E181-X02A8 AMD HD7670 2GB DDR3 128bit UEFI DVI-I + HDMI LP	VG.PCU76.702	
Wireless LAN Card			
	WN7601R, Ralink RT3090, 802.11b/g/n 1x1 WLAN PCI-E x1 card (Low-profile)	NI.10200.038	N/A
	Lite-On WN6607LH WLAN WN6607LH, Realtek RTL8191SU, 802.11bgn 1Tx2R WLAN (mini-card)(USB interface) Half Size	NI.10200.041	
Modem			
	D-1156E#/A10A (Low-profile), Modem PCI-Ex1 card, LSI Universal Modem (PCI-E) 56K V.92 - Concorde (C40)	FX.10100.003	N/A
External Speaker			
	Neosonica speaker USB NEO 2003 with black color	SP.10600.032	N/A
	Neosonica speaker USB NEO 2003 with black color; meet AJC spec	SP.10600.040	
Mouse			
	Logitech Optical mouse USB M-U0027-O with polish cover	MS.11200.081	N/A
	Primax Optical mouse USB MOFFUO with polish cover	MS.11200.083	
	Lite-on P5 optical mouse RF2.4 SM-9661 with receiver(nano dangle)	MS.11200.084	
	Lite-on P5 optical mouse RF2.4 SM-9661 with receiver ; without battery	MS.11200.095	
Keyboard			
	Keyboard LITE-ON SK-9020 USB 104KS Black US	KB.USB0B.283	N/A

Category	Description	Part Number	Exploded Diagram Item
	Keyboard LITE-ON SK-9020 USB 105KS Black UK	KB.USB0B.284	
	Keyboard LITE-ON SK-9020 USB 105KS Black Spanish Latin	KB.USB0B.285	
	Keyboard LITE-ON SK-9020 USB 105KS Black English/Canadian French	KB.USB0B.286	
	Keyboard LITE-ON SK-9020 USB 104KS Black Traditional Chinese	KB.USB0B.287	
	Keyboard LITE-ON SK-9020 USB 104KS Black Thailand	KB.USB0B.373	
	Keyboard LITE-ON SK-9020 USB 109KS Black Japanese	KB.USB0B.374	
	Keyboard LITE-ON SK-9020 USB 109KS Black Brazilian Portuguese leverage the JA 109 key top cover	KB.USB0B.375	
	Keyboard LITE-ON SK-9020 USB 105KS Black US International	KB.USB0B.378	
	Keyboard LITE-ON SK-9020 USB 105KS Black Spanish	KB.USB0B.379	
	Keyboard LITE-ON SK-9020 USB 105KS Black Portuguese	KB.USB0B.380	
	Keyboard LITE-ON SK-9020 USB 105KS Black Italian	KB.USB0B.381	
	Keyboard LITE-ON SK-9020 USB 105KS Black Swedish	KB.USB0B.382	
	Keyboard LITE-ON SK-9020 USB 105KS Black Dutch	KB.USB0B.383	
	Keyboard LITE-ON SK-9020 USB 105KS Black Swiss/G	KB.USB0B.384	
	Keyboard LITE-ON SK-9020 USB 105KS Black Belgium	KB.USB0B.385	
	Keyboard LITE-ON SK-9020 USB 105KS Black Icelandic	KB.USB0B.386	
	Keyboard LITE-ON SK-9020 USB 105KS Black Norwegian	KB.USB0B.387	
	Keyboard LITE-ON SK-9020 USB 105KS Black Hebrew	KB.USB0B.388	
	Keyboard LITE-ON SK-9020 USB 105KS Black Polish	KB.USB0B.389	
	Keyboard LITE-ON SK-9020 USB 105KS Black Slovenian	KB.USB0B.390	
	Keyboard LITE-ON SK-9020 USB 105KS Black Slovak	KB.USB0B.391	
	Keyboard LITE-ON SK-9020 USB 105KS Black Russian	KB.USB0B.392	

Category	Description	Part Number	Exploded Diagram Item
	Keyboard LITE-ON SK-9020 USB 105KS Black Hungarian	KB.USB0B.393	
	Keyboard LITE-ON SK-9020 USB 105KS Black Greek	KB.USB0B.394	
	Keyboard LITE-ON SK-9020 USB 105KS Black Danish	KB.USB0B.395	
	Keyboard LITE-ON SK-9020 USB 105KS Black Czech	KB.USB0B.396	
	Keyboard LITE-ON SK-9020 USB 105KS Black Romanian	KB.USB0B.397	
	Keyboard LITE-ON SK-9020 USB 105KS Black Turkish	KB.USB0B.398	
	Keyboard LITE-ON SK-9020 USB Black Turkish-Q	KB.USB0B.405	
	Keyboard LITE-ON SK-9020 USB 105KS Black French	KB.USB0B.399	
	Keyboard LITE-ON SK-9020 USB 105KS Black German	KB.USB0B.400	
	Keyboard LITE-ON SK-9020 USB 105KS Black Nordic	KB.USB0B.401	
	Keyboard LITE-ON SK-9020 USB 105KS Black Arabic/English	KB.USB0B.402	
	Keyboard LITE-ON SK-9020 USB 105KS Black Arabic/French	KB.USB0B.403	
	Keyboard LITE-ON SK-9020 USB 105KS Black Swiss/FR	KB.USB0B.404	
	Keyboard CHICONY KU-1112 USB Standard Black US International	KB.USB03.330	
	Keyboard CHICONY KU-1112 USB Standard Black Spanish	KB.USB03.331	
	Keyboard CHICONY KU-1112 USB Standard Black Portuguese	KB.USB03.332	
	Keyboard CHICONY KU-1112 USB Standard Black Italian	KB.USB03.333	
	Keyboard CHICONY KU-1112 USB Standard Black Swedish	KB.USB03.334	
	Keyboard CHICONY KU-1112 USB Standard Black Dutch	KB.USB03.335	
	Keyboard CHICONY KU-1112 USB Standard Black Swiss/G	KB.USB03.336	
	Keyboard CHICONY KU-1112 USB Standard Black Belgium	KB.USB03.337	
	Keyboard CHICONY KU-1112 USB Standard Black Icelandic	KB.USB03.338	
	Keyboard CHICONY KU-1112 USB Standard Black Norwegian	KB.USB03.339	

Category	Description	Part Number	Exploded Diagram Item
	Keyboard CHICONY KU-1112 USB Standard Black Hebrew	KB.USB03.340	
	Keyboard CHICONY KU-1112 USB Standard Black Polish	KB.USB03.341	
	Keyboard CHICONY KU-1112 USB Standard Black Slovenian	KB.USB03.342	
	Keyboard CHICONY KU-1112 USB Standard Black Slovak	KB.USB03.343	
	Keyboard CHICONY KU-1112 USB Standard Black Russian	KB.USB03.344	
	Keyboard CHICONY KU-1112 USB Standard Black Hungarian	KB.USB03.345	
	Keyboard CHICONY KU-1112 USB Standard Black Greek	KB.USB03.346	
	Keyboard CHICONY KU-1112 USB Standard Black Danish	KB.USB03.347	
	Keyboard CHICONY KU-1112 USB Standard Black Czech	KB.USB03.348	
	Keyboard CHICONY KU-1112 USB Standard Black Romanian	KB.USB03.349	
	Keyboard CHICONY KU-1112 USB Standard Black Turkish	KB.USB03.350	
	Keyboard CHICONY KU-1112 USB Standard Black UK	KB.USB03.351	
	Keyboard CHICONY KU-1112 USB Standard Black French	KB.USB03.352	
	Keyboard CHICONY KU-1112 USB Standard Black German	KB.USB03.353	
	Keyboard CHICONY KU-1112 USB Standard Black Nordic	KB.USB03.354	
	Keyboard CHICONY KU-1112 USB Standard Black Arabic/English	KB.USB03.355	
	Keyboard CHICONY KU-1112 USB Standard Black Arabic/French	KB.USB03.356	
	Keyboard CHICONY KU-1112 USB Standard Black Swiss/FR	KB.USB03.357	
	Keyboard CHICONY KU-1112 USB Standard Black Turkish-Q	KB.USB03.358	
	Keyboard CHICONY KU-1112 USB Standard Black US	KB.USB03.359	
	Keyboard CHICONY KU-1112 USB Standard Black Spanish Latin	KB.USB03.360	
	Keyboard CHICONY KU-1112 USB Standard Black English/Canadian French	KB.USB03.361	

Category	Description	Part Number	Exploded Diagram Item
	Keyboard CHICONY KU-1112 USB Standard Black Traditional Chinese	KB.USB03.362	
	Keyboard CHICONY KU-1112 USB Standard Black Thailand	KB.USB03.363	
	Keyboard CHICONY KU-1112 USB Standard Black Japanese	KB.USB03.364	
	Keyboard CHICONY KU-1112 USB Standard Black Brazilian Portuguese leverage the JA 109 key top cover	KB.USB03.365	
	Keyboard LITE-ON SK-9061 RF2.4 104KS Black US	KB.RF40B.083	
	Keyboard LITE-ON SK-9061 RF2.4 104KS Black Traditional Chinese	KB.RF40B.084	
	Keyboard LITE-ON SK-9061 RF2.4 104KS Black Thailand	KB.RF40B.085	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Spanish Latin	KB.RF40B.086	
	Keyboard LITE-ON SK-9061 RF2.4 Black Spanish Latin without battery	KB.RF40B.122	
	Keyboard LITE-ON SK-9061 RF2.4 107KS Black Brazilian Portuguese	KB.RF40B.087	
	Keyboard LITE-ON SK-9061 RF2.4 109KS Black Japanese	KB.RF40B.088	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black UK	KB.RF40B.089	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black English/Canadian French	KB.RF40B.090	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black US International	KB.RF40B.093	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Spanish	KB.RF40B.094	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Portuguese	KB.RF40B.095	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Italian	KB.RF40B.096	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Swedish	KB.RF40B.097	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Dutch	KB.RF40B.098	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Swiss/G	KB.RF40B.099	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Belgium	KB.RF40B.100	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Icelandic	KB.RF40B.101	

Category	Description	Part Number	Exploded Diagram Item
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Norwegian	KB.RF40B.102	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Hebrew	KB.RF40B.103	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Polish	KB.RF40B.104	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Slovenian	KB.RF40B.105	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Slovak	KB.RF40B.106	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Russian	KB.RF40B.107	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Hungarian	KB.RF40B.108	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Greek	KB.RF40B.109	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Danish	KB.RF40B.110	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Czech	KB.RF40B.111	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Romanian	KB.RF40B.112	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Turkish	KB.RF40B.113	
	Keyboard LITE-ON SK-9061 RF2.4 Black Turkish-Q	KB.RF40B.123	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black French	KB.RF40B.114	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black German	KB.RF40B.115	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Nordic	KB.RF40B.116	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Arabic/English	KB.RF40B.117	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Arabic/French	KB.RF40B.118	
	Keyboard LITE-ON SK-9061 RF2.4 105KS Black Swiss/FR	KB.RF40B.119	